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LESSONS LEARNED: THE IRAN-IRAQ WAR

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The Iran-Iraq War

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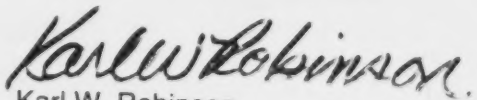
FOREWORD

The Iran-Iraq War was the prelude to America's involvement in the tragic troubles afflicting Kuwait and the Persian Gulf. Conditions born of this war produced the dangerous impasse leading Iraq to invade its neighbor. Now that American military men are confronting Saddam's forces in the Gulf, it behooves us to look back at the 8-year struggle between Iraq and Iran for lessons that will enable us to cope in this present crisis.

This report focuses on the qualitative development of Iraq's forces over the course of the long war. It points out their weaknesses and strengths and makes some significant observations about the maturation of modern armies.



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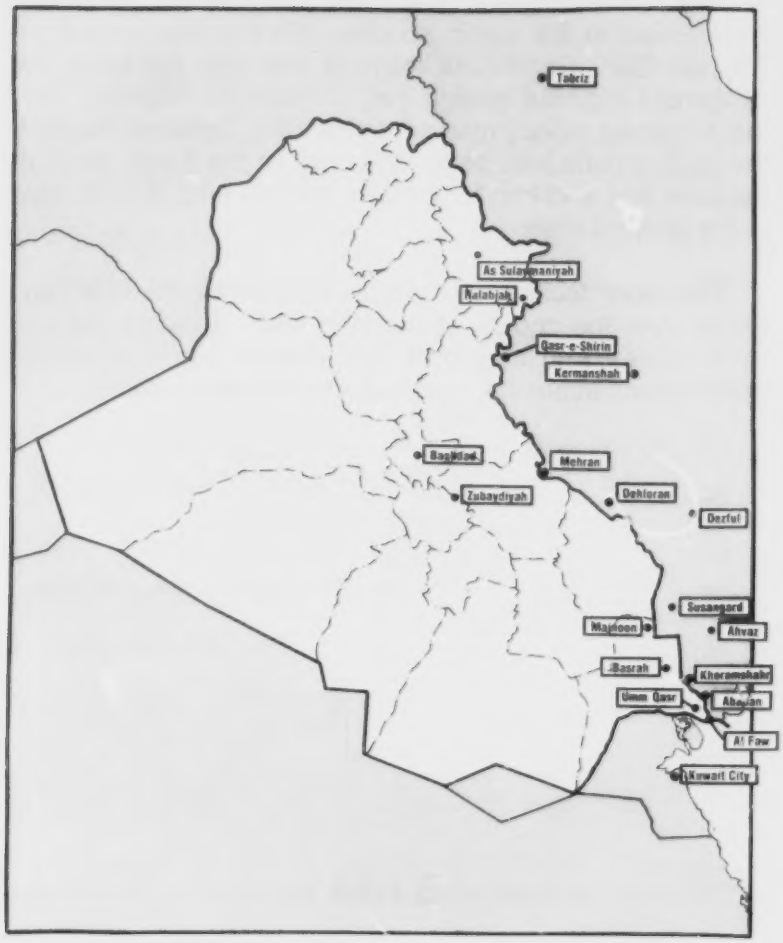

Figure 1. Map of Iraq.

SUMMARY

Iraq emerged from its war with Iran as a superpower in the Persian Gulf. This had not been its original intent; it did not deliberately use the war to transform its strategic position or to impose its domination over the region. Iraq achieved regional superpower status through a series of escalatory steps that were required to repel Iran's Islamic fundamentalist crusade. Iraqi leaders mobilized a diverse population, strengthened Iraq's armed forces, and transformed its society to take the offensive and terminate the war with Iran.

The major change wrought by Iraq was mobilization of a million man army from a population of only 16 million. Iraq's General Staff trained recruits in the complex techniques of modern warfare and equipped them with the most up-to-date weaponry. Thus, they were able—at the decisive battle of Karbala V—to administer a crushing defeat to Iran, which since has ceased to exist as a military power in the Persian Gulf.

This report explains how the Iraqi army achieved this feat. It traces its progress through various phases of its development, and details the strategic, operational and tactical skills demonstrated in Iraq's final campaigns.

At the same time, however, the report draws a somber lesson from the conflict—long wars, particularly those that are as bitterly fought as this, exact a high price on the winners as well as the defeated. Iraq discovered after the war that it was regarded as a threat to regional stability; other states feared its supererogatory power. Even states that formerly had aided its fight against Iran refused to offer much needed post-war assistance.

As a result, Iraq could not pay the enormous debts that it had incurred to wage the war. It could not maintain the million man army which had become a source of national pride.

It foresaw disaster looming, unless it found a way out of its predicament. In the end, Iraq seems to have viewed the invasion of Kuwait as a possible solution, an act that has brought it the opprobrium of practically the entire world.

Iraq's gamble may yet pay off, although we doubt this. It seems, at this writing, to have dug itself into an abyss. Even more troubling, however, is the fate that has befallen the strategically crucial Persian Gulf region. Once an essential island of stability, the Gulf has become a maelstrom of conflicting forces. It is problematical whether peace can be restored to this area. Although separate from the war, the present crisis in Kuwait is an outgrowth of it, and we discuss this relation in the Epilogue.

Additional points of interest about the war include:

Political/Strategic Lessons.

- Iraq fields a "people's" army. The regime initiated a total call-up of available manpower in 1986. The response was good. No draft riots occurred; young men—even college students—reported without incident. The fact that the public answered the call tells us that Iraqis support their government.

- In Iraq it is no disgrace to be infantry. College students are enrolled in elite infantry brigades. These so-called Republican Guard units are constantly singled out for praise by the President. More so than units of this type elsewhere, they are honored and rewarded.

- Iraq's General Staff is not political. It most closely resembles the Turkish model. It is not interested in mixing in politics, and will not do so as long as the army's honor is upheld. One of the major changes wrought by the war was the weakening of political control over the army. Political commissars are still attached to major units, but they cannot countermand military orders. At the same time, officers who fail—egregiously—can be

put to death, and this certainly is an inhibitor against taking independent action.

- The literacy rate of Iraqi soldiers is relatively high; among Arab states it is quite high. This is because before the war broke out the regime strove for 100 percent literacy. Eighty-five percent of the army belongs to the sect of Shiism. The Kurds—the country's principal minority—do not serve; they consistently have resisted the draft.

- The army is accustomed to being well taken care of with all the equipment and perks it desires. During the war, the oil sheiks subsidized this. Now that the funding is cut off, problems may arise. We do not know how the Iraqi army would perform under an austerity program.

- Iraq tends to put excessively large forces into battle, which makes for some uneven quality. For example, the regime persisted in using Ba'thist militiamen—the so-called Popular Army—long after it was shown that they were not reliable.

- The army has high institutional self-esteem. Morale is good after the victory over Iran. The average soldier sees himself as the inheritor of an ancient tradition of warfighting—the Iraqis primarily spread the might of Islam in the 7th century. Officers are well trained and confident, and, as long as Saddam does nothing to impair the dignity of the army, they will back him to the hilt.

Operational Lessons.

- Iraq is superb on the defense. Its army is well equipped and trained to carry out mobile defense operations.

- Its modus operandi is to establish a deep, integrated fortified zone augmented with large quantities of artillery. This is supported by highly mobile, armor

heavy reserves. The latter are moved rapidly over specially constructed roads to relieve frontline troops in emergencies. Using these tactics, the Iraqis held back massive invasions of Iranians—sometimes 200,000 strong—along a 730-mile front for 8 years.

- The Iraqis have limited experience in projecting power. For most of the war Saddam Husayn held his army in check, restricting it largely to a static defense. Only after 1986 did the President loosen up and switch to mobile defense, at which time he surrendered a large measure of operational control to his generals. As a consequence, the generals are more comfortable reacting to enemy moves than initiating their own action. The final campaign of the war demonstrated their ability to penetrate deeply and sustain their forces for about a week.

- Iraqis have a well-practiced combined arms capability that is very effective against light infantry. Operationally they prefer the defense and are good at it, using fortifications effectively.

- On the offense they prefer high force ratios and very heavy fire support and use drills, mock-ups and rehearsals effectively. Despite their preference for well-planned and orchestrated operations, however, they are not inflexible. They are excellent problem solvers and will come back and do it right, or make adaptations as needed.

- They have practiced the integrated use of chemical weapons to good effect; they correctly recognize that such weapons have good tactical utility. Preferred chemical targets are artillery, logistics and command elements.

- The brigade is their basic combat formation with a single division controliing a variable number of brigades. They are capable of conducting a system of successive

forward passages of units giving the effect of a rolling offensive to keep up pressure with relays of fresh troops.

In Appendix E we offer some thoughts on the Iraqi Army's vulnerabilities. This is not an attempt to formulate a specific attack plan, but rather to provide an outline of Iraqi vulnerabilities vis-a-vis a Western army.

Priority Tasks for an Attack.

- We see as the first priority strategic military task, the elimination of the Iraqi missile force. Inaccurate though it may be, it serves as a potential check against "allied" offensive actions by posing a perceived threat against both Riyadh and Tel Aviv.

- The first priority operational task is to secure air supremacy. The Iraqis have never been confronted with an efficient air power which, in conjunction with other systems, offers the opportunity to checkmate any Iraqi offensive action. It also reduces the chemical and fuel-air explosive threats as an adjunct.

- The first priority tactical task is to eliminate Iraqi fire support. While this task serves to negate the effect of the massive Iraqi artillery establishment, it simultaneously eliminates the bulk of the chemical threat to "allied" forces.

While we do not deal explicitly with the "center of gravity" as part of this report, the issue has achieved such prominence that we opine that, especially in any totalitarian system, communication between the leadership and the subordinate echelons is the key to disruption of the centralized command structure. In a strategic sense this means that if the leader can be isolated, paralysis may set in. We feel this report supports a conclusion that the operational and tactical command and control network is the center of gravity.

We offer one final note of caution. Although we have thrice mentioned specific tasks for air power, we do not believe that air power alone will suffice to bring a war with Iraq to an early or decisive conclusion. In the final analysis, ground forces will be required to confront the Iraqi Army and either dig or drive it out of Kuwait. The priorities indicated above have the ultimate purpose of making the land campaign a viable option with minimum casualties.

CHAPTER 1

INTRODUCTION

This is a study of the Iran-Iraq War from which we attempt to derive useful lessons for military professionals. The war was a complex affair, with peculiar features that are essential to understand. For example, geopolitics played an extremely important role. The Persian Gulf—the war's arena—is one of the world's most strategic locations and both superpowers claim it as their sphere of influence.[1] Hence they regarded it as their right to interfere in the war whenever they felt that their interests were threatened.[2]

Iran, a revolutionary state, rejected such interference; Iraq sought to cooperate, even exploit, outside interest. Baghdad found this expedient since its aims and those of the superpowers were similar—the United States, the Soviet Union and Iraq all wanted a negotiated end to the fighting. (Iran wanted to destroy Iraq and set up an Islamic republic in its place.)

For reasons explained in this report, Iraq's objectives changed. It no longer had an incentive to cooperate with the superpowers. In secret, it planned a military solution that defied both Washington and Moscow. This decision by the leadership brought Iraq the victory it craved, but it has subsequently unleashed a storm of difficulties which led directly to the invasion of Kuwait.

Another factor that heavily influenced the war was demography. The Iranians vastly outnumbered the Iraqis (45 million Iranians, 16 million Iraqis), and a significant proportion of Iran's forces were religiously crazed zealots. Against these odds Iraq could do little but husband the relatively meager human resources it had.

At the same time it had to fight. However, as its forces were relatively inexperienced in modern warfare techniques, they had to be trained. Iraq was fortunate to have an excellent General Staff (shaped by the traditions of the Prussian military), which by the war's end had developed the army into a first class fighting institution.[3] The synergy between the generals and Iraq's civilian leadership made victory possible. This concentration of efforts occurred in 1986, when the Iraqis decided to switch strategies and seek a unilateral end to the conflict.

Finally the reader should be aware of the views of Iran's clerics about warfighting—they opposed modern armies, which they viewed as corrupt institutions. Just before the start of the war with Iraq they had purged the army that the Shah had left them and, as a result, they had only fragments with which to oppose the Iraqis when the invasion came.[4]

However, the clerics were fortunate in that Iran's people arose spontaneously to the nation's defense. The clerics exploited this outpouring of support and organized it into newly mobilized forces under the command of youthful revolutionaries who had helped to overthrow the Shah. The revolutionaries formed light armed infantry units, calling themselves the Pasdaran. Like other institutions of this type, the results were mixed. On the plus side, the Pasdaran was full of zeal—its courage was phenomenal. However, few of its members had any military training, and a great many had no formal education at all.

Indeed, the Pasdaran and the Iraqi Army were the antitheses of one another. The Pasdaran, the product of revolution, comprised antisecular, religious zealots. The Iraqis were committed to modernization and all its trappings, including the most modern military capabilities that the regime could buy. Its officers strove to learn and apply the principles of modern warfare.

The Iranians rejected the concept of military professionalism.[5] They deemphasized training, depending

instead on spontaneity. Their idea of a battle was a headlong charge. They believed that ultimately by piling on more and more troops they could smother Iraqi resistance and score a decisive breakthrough.

In a struggle that pitted zealots against a smaller, but modernized army, discipline and modern arms prevailed. However, Iraq's success was not painless. To achieve victory it had first to radically transform its society. The changes that were made strained not only the fabric of the Iraqi state but ultimately the entire state system in the Persian Gulf.

A major theme we shall try to develop is one of change, and of the cost of change to a society like Iraq's. We believe that the current crisis over Kuwait has grown out of the Iran-Iraq War and, specifically, from Baghdad's decision to impose a costly military solution on its enemy.

Organization. The report is divided into four chapters and an epilogue. Following this introduction, Chapter 2 provides a narrative overview, describing the major events of the war, concentrating on the circumstances under which the various battles were fought. This is a sparse treatment, with very little commentary, for a professional audience which needs only sufficient background material to make independent judgments about our assessments and conclusions.[6] (A detailed assessment of the war can be found in *Iraqi Power and U.S. Security in the Middle East*, the SSI study of the Iraqi Army in the last 8 months of the war.)

Chapter 3, devoted to strategies and operations, attempts to identify the political background from which the strategies were formulated. It also includes details about the economy and society of the two countries, without which many events and decisions would be confusing, if not impossible, to assimilate.

Chapter 4 concerns tactics. On the Iraqi side, tactics were shaped by technology, and ultimately—as the report documents—technology changed the form of Iraq's Army. This

structural transformation is very important. In the end it is the best evidence we have that the Iraqi military matured during the 8 years of fighting.

The Epilogue examines lessons from this war in relation to what is presently occurring in the Gulf. We offer some cautionary advice, and some practical observations which should be useful, if the current confrontation develops into a more serious conflict.

The report contains six appendices. The first, the Battle of Karbala V, takes the reader step-by-step through the battle, which we consider the decisive engagement of the war; the second concerns the crucial topic of chemical warfare; the third creates a plausible scenario of how an Iraqi attack might unfold; the fourth discusses the air war; the fifth focuses on the Iraqi army's vulnerabilities; and the final appendix deals with the problem of estimating casualties.

The authors were not able to discuss this study with any Iraqi or Iranian officers who fought in the war, which is extremely unfortunate, since neither side has made any systematic effort to describe the war or record its history in detail.[7] Indeed, Iraq and Iran are probably two of the world's most closed societies. As a consequence, a lack of information in essential areas continues to plague the efforts of those who are attempting to assess the conduct of both sides during this long and remarkable conflict.

To offset this methodological difficulty, we relied on extensive research, mainly into raw intelligence, as well as open source materials. In addition, we interviewed individuals here and in the Middle East who were intimately associated with the day-to-day operations of the conflict. In this regard, a number of intelligence specialists who had monitored all or portions of the war were gathered together for a two-day roundtable discussion. Many of the ideas contained in the report evolved from that conference. However, the final product expresses the opinions of the authors only.

One final point—in this report we concentrate more on the Iraqis than on the Iranians because the Iraqis won, and because we believe the maturation of Iraq's army over the course of the war is a significant event. Moreover, given Iraq's subsequent activities in the region, it is important for readers to understand how Iraq's behavior enabled it to emerge the victor.

CHAPTER 2

OVERVIEW

Iraqi Invasion, 1980. The Iraqis invaded Iran on September 22, 1980, primarily in order to assure the internal security of the Ba'th regime, as will be discussed in Chapter 3. Operationally, their main thrust was directed at Iran's Khuzestan province in the extreme southernmost portion of the country on the northern Gulf. Concurrently, two smaller penetrations occurred in areas farther north along the border.

Iraq committed 7 of its 12 divisions to the invasion, 5 of them entering Khuzestan. The objective of the latter was to seize four cities—Khoramshahr, Abadan, Dezful and Ahvaz. This would enable the Iraqis to cut off the main reinforcement route to the province from Tehran, and would deliver the Shatt Al Arab into their hands.

To oppose the invasion, Iran had few active forces. A purge of the army had reduced it to about 150,000, about half of whom were available when the invasion occurred. Some of Iran's units were located far from the front in areas like the Caspian Sea or the northeastern corner of the Soviet-Iranian border. Others were occupied trying to subdue rebel tribesmen in Iranian Kurdistan.

The Iraqi units moved eastward away from the Shatt, averaging 10 kilometers a day, an extraordinarily slow advance considering the negligible opposition. Even so, by September 25 they had cut off Dezful and Ahvaz. They were not, however, at this point encountering a great deal of opposition.

The Iraqis received their first serious opposition when they attempted to take Khoramshahr (see Figure 2). The city, defended by several thousand Pasdaran and regular army troops, put up a stiff resistance. The Iraqis took the port area easily, but when they tried to move into the city center they

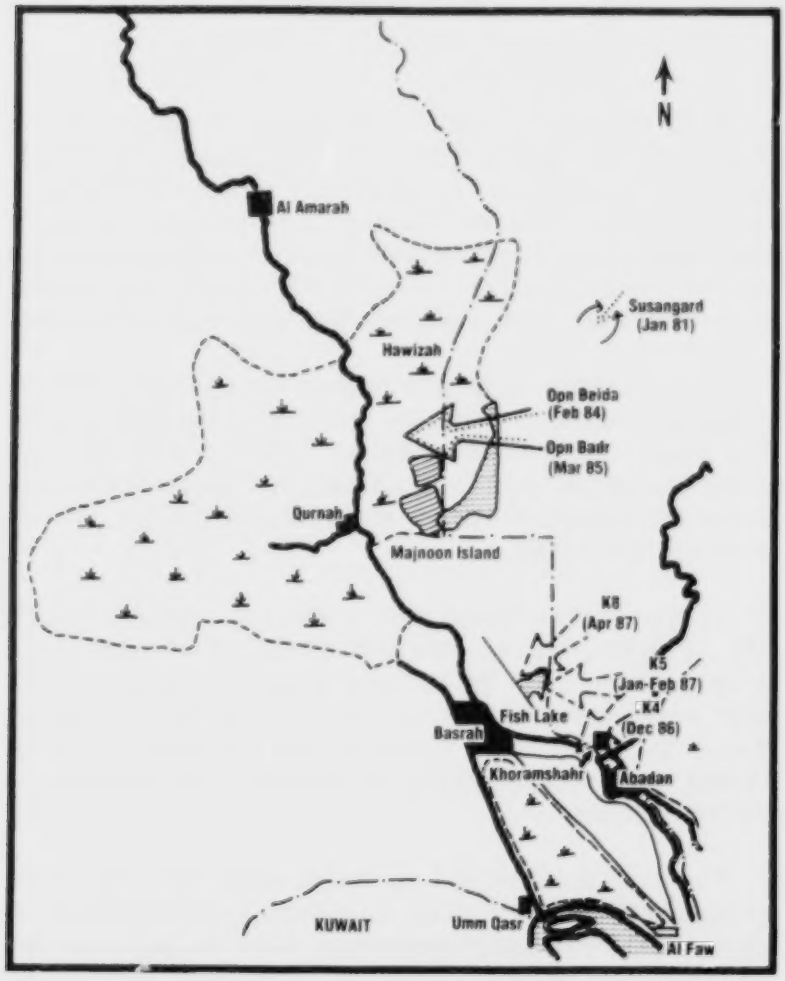

Figure 2. Southern Iraq.

bogged down. In the meantime Iraq's ruler, Saddam Husayn, had accepted a United Nations' ceasefire, the first of many that he obeyed. Khomeini refused to do so, after which Saddam ordered his commandos into Khoramshahr to clear it, which was accomplished by October 24.

Iraq's first victory had cost it considerable casualties.[8] To Saddam, this was totally unacceptable. His object at this stage—and indeed throughout most of the war—was to keep casualties down in order to retain public support and because of his limited population base. He therefore changed strategies, ordering his troops to surround the remaining three cities and to starve them out. At the same time, winter had arrived and the two sides ceased operations to dig in and await resumed hostilities in the spring. Saddam claimed his forces, having obtained all of their objectives, would not try to penetrate deeper into Iran; no reason exists to doubt the sincerity of his claim.

At this point, it appears that the Iraqi strategy was to hold the area captured and wait for either Khomeini to negotiate a formal settlement (which would cede Iranian rights to the Shatt) or for the collapse of the clerical regime.

Iranian Counteroffensive, 1981. The following spring Iran's then-president Abol Hassan Bani Sadr ordered a major tank battle fought in the vicinity of Susangard. About 300 tanks participated on each side, and the Iraqis won by using a double envelopment. They tricked the Iranians into thinking that they were giving way, then they closed their flanks on the Iranians, grinding them to extinction—a modern day Cannae. Roughly 200 Iranian tanks littered the field when the battle was over.

The outcome at Susangard seems to have embittered the clerics against the regulars, about whom they already harbored deep misgivings. They now began withdrawing resources from the regular army and giving them to the Pasdaran.[9] Thus the Pasdaran became the principal military instrument of the Khomeini government. Along with the Pasdaran, another paramilitary force made its appearance—the Basij (formal

name: the Mobilization of the Oppressed). The Basij comprised elements of Iran's underclass who initially had been mobilized during the hostage crisis when Iran seized U.S. diplomats in the Tehran embassy. Expecting an American invasion, Khomeini called up "20 million" volunteers. The invasion never came and the volunteers were sent home, but now they were recalled. Sent to the war fronts, they were given two weeks of basic training and placed under the command of the Pasdaran.

This call-up benefited the Iranians in two ways. First it reduced the manpower imbalance between them and the Iraqis. Whereas when the war started Iraq's military outnumbered Iran's 5:1, now it was closer to 2:1. Further, with the Basij in hand the Iranians were free to innovate tactically.

The Iranians first used the human wave attack on November 29, 1981, at Bostan. The brutality of the maneuver stunned the Iraqis. The Iranians herded hundreds of children (some no more than 12 years old) into the combat zone to detonate concealed mines. The children were followed by Basij who threw themselves on the barbed wire, cutting through the entanglements under fire of the Iraqis. Finally came the Pasdaran who attacked over the corpses of the slain Basij. Initially the human waves encountered units of Iraq's Popular Army.[10] These were militia, not regular troops, and they broke and fled under the assault.

The Iranians exploited their tactical success. They scheduled more human wave attacks, and made them at night when the Iraqis were more liable to panic. In a number of instances, Iraqi commanders became so disoriented they committed their reserves prematurely. In this way the momentum of the war began to swing against the Iraqi forces. Fortunately for Baghdad, winter intervened and the two sides dug in. The Iranians used the lull to increase recruiting; the Iraqis do not appear to have done much of anything. Indeed, signs were multiplying that they were becoming seriously demoralized.

By the spring of 1982 the Iranians had turned the war around. They lifted the siege of Abadan and shortly thereafter recaptured Khoramshahr. All this was accomplished in three months of quite hard fighting during which heavy casualties were reported on both sides.[11]

At this point Saddam decided to cut his losses; he ordered a general retreat to the border. This was a success in the sense that the Iraqis withdrew in good order. In the overall invasion, however, they had hardly covered themselves with glory, having suffered numerous casualties and given up thousands of prisoners to the Iranians. The Iranians, too, had experienced casualties—more than the Iraqis—but they had turned back the invasion which was a commendable feat. With the withdrawal of the Iraqis to the border in June 1982 the first phase of the war had ended.

Iraqi Defense Stiffens. Two things happened at the outset of the next phase. Even before the withdrawal was completed Saddam began making overtures to Khomeini to negotiate a settlement. The Ayatollah adamantly opposed this. Moreover, he made it clear that he would wrest control of southern Iraq from the Ba'thists, who had no alternative now but to prepare for what amounted to a battle for national survival.[12]

The other significant development was that Saddam initiated an investigation into what had gone wrong.[13] He discovered that—in the troops' eyes—a large proportion of the army's officer corps was incompetent. Indeed the army was riddled with Ba'thist hacks,[14] who had won their promotions because of political influence. Saddam removed a large percentage of these—some of whom he executed. The remaining officers were mostly qualified professionals to whom Saddam entrusted the defense of Basrah.

The outcome of the Iran-Iraq War hinged on the defense of this southern Iraqi city. Had it fallen, it is unlikely that Iraq could have survived. Basrah is home to Iraq's Shia community which makes up the bulk of its army (85 percent).[15] At all costs the Ba'thists had to retain the support of this vital

constituency—which they could never have done had they lost Basrah.

Basrah is not an easy city to hold. Sitting almost directly on the border (see Figure 2), it is inconveniently exposed. Most tellingly, it lacks strategic depth. The Iraqis could barely afford to surrender a kilometer of ground around it. In addition, the city is partially hemmed with swamp, thus reducing the maneuver room of Iraq's tank forces, the mainstay of its military.

To offset these disadvantages, Iraq's generals created an awesome defense work, digging their tanks into huge earthen berms and buttressing these with concrete bunkers. Thus a huge barrier, which the Iraqis dubbed "the Iron Ring," rose in the desert outside Basrah, augmented by the creation of a huge artificial lake as a water barrier.

On July 13, the Iranians launched their attack. Once more, youthful "mine clearers" led the way, followed by Basij—attacking in single lines of perhaps 1,000 men each—and after them came the Pasdaran and finally armored columns of regulars. Iraq's 9th Armored Division, which absorbed the brunt of the attack, at first seemed to give way. In fact, the Iraqis duplicated the maneuver they had practiced at Susangard. The 9th fell back only so far and then it halted, and Iraqi units positioned on the Iranians' flanks closed in to destroy them.

Those Iranians who escaped, reformed and made several further attempts to break the ring. In the end, however, the battle was determined by the heat (at that time of year it was well into the 100s). Exhausted, the Iranians withdrew. Their losses were severe. (Iraq claimed to have destroyed two divisions.) The Iraqis suffered, too, as indicated by the Iraqi 9th Division disappearing from the Order of Battle, this suggesting losses of something over 30 percent.

Iranian Direct Attacks, 1983. Iran's initial attempt at invasion had failed, to the surprise of many observers who had

predicted Iraq's defeat. Most unexpected was the stubbornness of the Iraqis' defense. Iran had not foreseen that they would defend their soil with such determination.

In February 1983 the Iranians tried again to invade—with a plan that in most aspects duplicated their previous attempt. This time, however, they struck farther north at a small border crossing, Fakkeh. Once again, their main tactic was the human wave attack, which continued from February 6 to 10. As in the previous year, the invasion failed. The Iranians gained a few kilometers, but considering what these kilometers had cost, this was little compensation.

The Iranians had let it be known before their initial assault that they expected Iraq's Shias to open Basrah to them; they had propagandized this message before the battle. When this did not occur, they clearly were shaken since Iraq's Shia community is the largest outside Iran.[16] That it did not respond to Khomeini's appeal was a blow to the prestige of the Islamic Revolution.

Having failed to take Basrah in two major campaigns in 7 months, the Iranians could not now afford another large scale offensive. They spent the remainder of 1983 conducting lesser operations, in which Iran's regular army took charge. The army had disapproved of the earlier attacks on Basrah, and was eager now to try an alternate approach.

The regulars' strategy was to conduct a series of hit-and-run attacks at various locations along the 730 mile frontier. This would keep pressure on the Iraqis and allow Iran to retain the momentum of the war. Initially the attacks were concentrated in Iraq's northern Kurdish areas. The Kurdish minority—of a different racial background than the Arab Iraqis who rule in Baghdad—have for centuries been disaffected from the central government.

Of these border-raiding operations, three were noteworthy. In an Iranian assault on Haj Umran (in the far northern region) that took place on July 22, 1983, Iraq was forced to surrender

a small area of territory in a desperate fight atop 10,000 meter high peaks (see Figure 3). Mehran, the second significant battle of 1983, saw Iraq lose that city to Iran (this in fact was an Iranian city, captured by Iraq in the first weeks of the war) And, finally, a third engagement inside Iraqi Kurdistan occurred in October; this was at Penjwin. Here, too, the Iraqis suffered a small loss of territory.

On the whole, however, the Iraqis did well in turning the Iranians back, as will be discussed in more detail in the next chapter. The significant point is the action taken by the Iraqi generals in response to Iran's attrition strategy. Made aware of their vulnerability to such tactics they strove to enhance the army's operational lateral mobility. They began an ambitious road building campaign to enable them to reinforce anywhere along the border within hours. Although operating on parallel fronts, they created operational interior lines.

Iranian Indirect Attacks, 1984. At this point in the war the Iranians made a most fateful decision. They stood, as it were, at a crossroads. They could have persisted with the regular army's attrition strategy or taken a new direction. They chose the latter.

The Pasdaran—who had not been happy with attrition—convinced Iran's clerical leadership to abandon it, and instead to refocus efforts on capturing Basrah. At the same time, however, the Pasdaran foreswore attempts to take the city by direct frontal assault. They tried the indirect approach.

The first of these deceptive assaults occurred on February 22, 1984, and was made through the Hawizah Marshes north of the city (see Figure 2). The Iraqis—apparently believing that the terrain in the marsh area precluded large scale maneuvers—had not manned it in strength.

Using thousands of small boats, the Iranians infiltrated the marshes and disembarked onto dry land at Beida (see Figure 2). The Iraqi general in charge of this area, Hisham Fakhri,

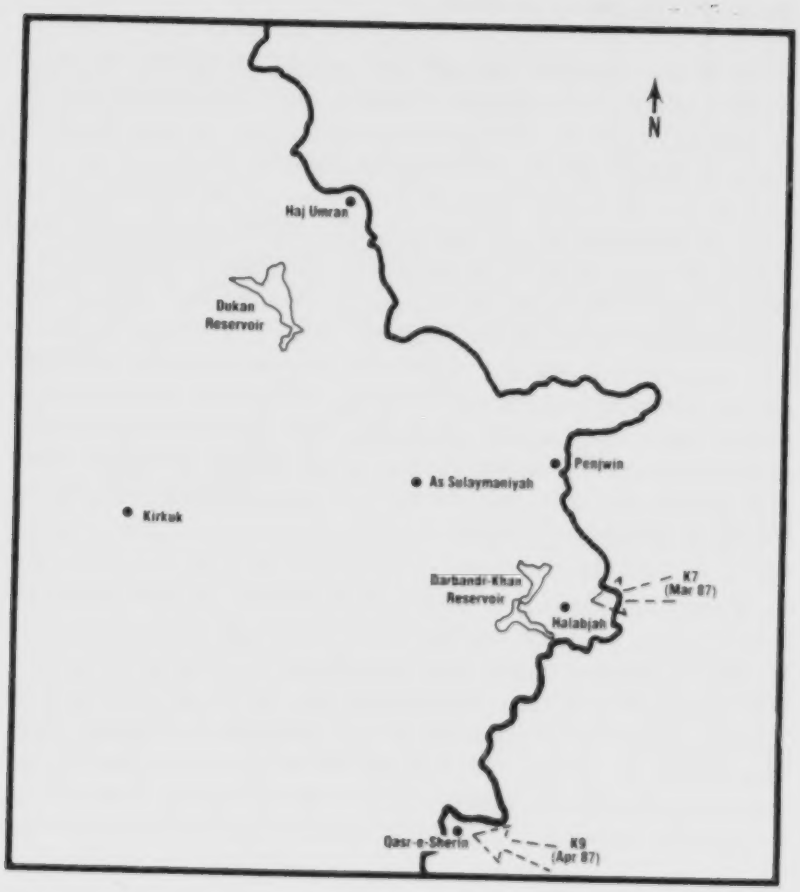

Figure 3. Northern Iraq.

reacted swiftly. He correctly determined that this was a serious attempt to invade and committed his troops to stop it. Hard fighting ensued over the next several days. In the end the Iraqis succeeded in driving the Iranians back and inflicted considerable losses on them.

One day later the Iranians tried again, striking at the line dividing the III and IV Corps. The III Corps Commander, Maher Al Rashid, again committed troops promptly. In four days of fighting, he, too, turned the invader back.

On March 1 the Iranians attacked a third time, again through the marshes. Once more they were defeated. However, in falling back they occupied Majnoon Island (see Figure 2), presenting the Iraqis with a dilemma. They wanted the Iranians off the island (the site of a major undeveloped oil field), but they could not dislodge them without large numbers of infantry units which were not readily available; the infantry was being withheld because of Saddam's unwillingness to incur high casualties. Rather than commit it in this instance, the Iraqis left Majnoon to the Iranians.

Except for the loss of Majnoon, Iraq had not done badly in 1984. It was gratifying that the army could defend successfully in difficult terrain—first in the mountains of Kurdistan, now in the southern swamps. In addition the Iraqis had initiated a regular program of spoiling attacks, frequently brigade-size operations in which the Iraqis would seek out Iranian units preparing for the invasion and provoke them to fight. This caused the Iranians to deplete their carefully hoarded supplies.

Iraqi Defense Succeeds, 1985. In 1985, the Iranians, in effect, restaged their 1984 Marsh campaign. They struck this time on March 11, 1985. Debarking near the Baghdad-to-Basrah highway near Qurnah (see Figure 2), they made a rush for the Tigris River (which skirts the border) and succeeded in crossing it to reach the roadway.

The Iraqis apparently anticipated some such operation, because General Fakhri intercepted the invaders as they

gained the highway. He ordered a mechanized division in the area to counterattack from the north. In the meantime, Republican Guards were brought from Baghdad to attack from the south. Between them they eliminated the Iranian incursion.[17] The use of the Guards is worth noting—this was an elite group, originally the ruler's personal bodyguard. This operation (afterwards known as the battle of Badr) was the first use of the guardsmen as a kind of mobile relief unit.

The operation ended the second phase of the conflict. To this point it would not be an exaggeration to say that Iraq was regaining the initiative. To the world's eyes, however, Iraq appeared to be barely holding its own, largely because the Iraqi forces would not attack. They insisted on waiting for Iran to attack them, and then they would overwhelm the Iranians with superior firepower.

In fact, as we shall discuss in the next chapter, the Iraqis were operating according to a plan. Under their strategy, they were fulfilling their objectives; the Iranians were suffering as casualties steadily mounted for no appreciable gains. At least this was the case as of late 1985. In 1986, however, events took a disastrous turn for the Iraqis.

Iranian Capture of Al Faw, 1986. Iraq's perception that it was winning was dashed early in 1986 by Iran's capture of Al Faw. The Iraqis expected the Iranians to make another attack on Basrah through the Hawizah Marshes, and had concentrated their forces in that area. Instead the enemy struck at the southernmost tip of the country.

Al Faw sits on the end of a peninsula that juts into the northern Gulf. Once an oil terminal, it had been abandoned early in the war after being devastated by Iranian air attacks; indeed its civilian population had departed when the Iranians captured it. In its abandoned state—and without any apparent strategic value—the Iraqis had not been concerned about it. They had a few units of Popular Army troops there, but these had a reputation for unreliability after several such units broke and fled in the early days of the war.

The Iranians rafted across the Shatt to Al Faw on the night of February 10, 1986, in the middle of a lashing rainstorm (see Figure 4). They secured a beachhead after the local Iraqi commander failed to promptly report the incursion to Baghdad. By the time he did, the Iranians were in Al Faw.

Baghdad dispatched Republican Guards to the peninsula, but unfortunately for them, flood conditions in the area took their toll. The Guards' advance foundered in the mud. Iranian artillery on the Shatt's east bank was able to zero in on them with devastating effect and the units were badly mauled. Although there was nothing of strategic value in Al Faw, Saddam determined that it must be regained for reasons that we will discuss in Chapter 3.

General Rashid was assigned to recapture it. For roughly 3 weeks he attempted to dislodge the Iranians and failed. His units were forced to move along three highways, the only roads above water. They inched their way forward behind a curtain of fire as Saddam had forbidden them to engage the Iranians hand-to-hand, lest they incur excessive casualties.

Finally Rashid had to content himself with containing the Iranians (numbering now about 30,000) at the end of the peninsula. Saddam then took a step that was to have far reaching implications for the outcome of the war. On May 12, on his orders, the Iraqis seized Mehran, which they had lost to the Iranians in 1983. Saddam proclaimed that he would be willing to trade Mehran for Al Faw, and implied that he would seize other Iranian towns if Khomeini did not accept.

The Iraqi Army, however, chose not to occupy the heights around Mehran, which would have required several extra brigades from the strategic reserves. Thus, when the Iranians counterattacked on June 10, the Iraqis had to abandon the city. The army commanders were blamed for this loss, and speculation was rife in Western quarters that the Iraqi Army might be crumbling.

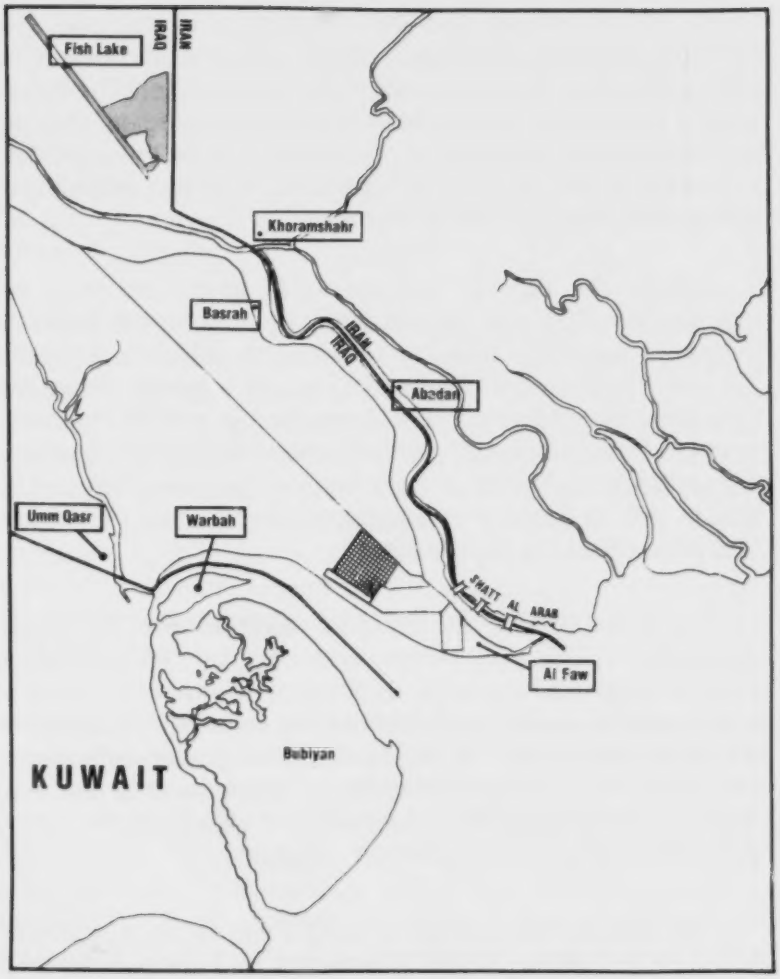

Figure 4. Al Faw and Umm Qasr.

Girding for the Last Campaign, 1986. In July, all of the leading figures of the Ba'th Party assembled in Baghdad to discuss the war. In addition to the top civilian leaders of the Party, military officers who were Ba'thists also attended. The principal topic was Saddam's plan to take the offensive. The actual debate will be discussed in the next chapter. The result, however, was that Iraq decided to change strategies—but not as Saddam had originally proclaimed. The Ba'thists worked out a plan which they put into operation, secretly, intending to spring it unawares on their enemy.

Initially the regime ordered what amounted to a full mobilization. This was an extraordinary step for the Ba'thists to take as they had no reason to suppose, at this dark hour of the war, that they could count on popular support. However, they dealt with the possibility of rejection in a most ingenious manner. Incentives and carefully veiled threats were artfully orchestrated to induce a high level of volunteerism. (The details can be found in our previous report, *Iraqi Power and U.S. Security in the Middle East.)*

The call-up was successful, beyond the Ba'thists' expectations. The Iraqi military was able, by mid-summer of 1986, to begin training large numbers of new recruits, many of whom were university students who had volunteered. We know little about the manner in which this training was undertaken, beyond the fact that the military did not simply build up a tactical reserve. It organized the volunteers into elite brigades, which wore the badge of the Republican Guards.

The Ba'thists' were aided in maintaining secrecy by events occurring in Tehran. There, the clerics had announced their intention of bringing the war to a decisive close by January 21, 1987 (the Iranian New Year). To that end, they proclaimed they would mobilize the greatest possible number of volunteers. More than 100,000 Iranians would be incorporated into the so-called Mohammad Corps. Later the Iranians boasted that a second contingent of 100,000—the Mahdi Corps—would also be formed. So the world's eyes were on Iran and, surely enough, over the course of the next few months, a major

mobilization commenced, as thousands of Iranians offered themselves for what was billed in Tehran as "the last campaign."

Karbala Campaign, 1987. The decisive campaign of the war was joined even before 1986 had ended. On December 24, 1986, the Iranians launched Karbala IV, an attempt to take the island of Umm Rassas in the Shatt (Figure 5). They intended to use this as a jumping off point for a march on Basrah. However, the Iraqis overwhelmed them before the Iranians could get across the island.

The Iranians claimed afterward that Karbala IV was merely a feint. They suffered so many casualties, however, that it is difficult to accept this explanation. Certainly, the Iraqis believed that this had been the main offensive; they boasted afterward that Iran's defeat in Karbala IV had broken its resistance. Unfortunately for them, the Iranians attacked again on January 9, beginning the battle of Karbala V. We regard Karbala V as so important to understanding the Iran-Iraq War that we have devoted Appendix A to analyzing it. In this section we will restrict ourselves to a few general comments about what occurred.

Although Karbala V was the main event, as it were, a number of battles taken together made up the "Karbala Campaign." It started with Karbala IV (already noted) and ended with Karbala VIII. The entire campaign stretched from December 1986 until April 1987. To be sure, the two sides were not fighting constantly during this interval; however, unrelieved fighting occurred during the Karbala V battle, from January 9 to February 2. The intensity was due to Iran's determination to end the war by the New Year.

Three of the battles in the campaign—Karbalas IV, V and VIII—were fought around Basrah; Karbalas VI and VII took place respectively in the central front and Kurdistan. These latter, however, were minor actions—desperate attempts by the Iranians to keep the momentum going while they regrouped for another try at Basrah.

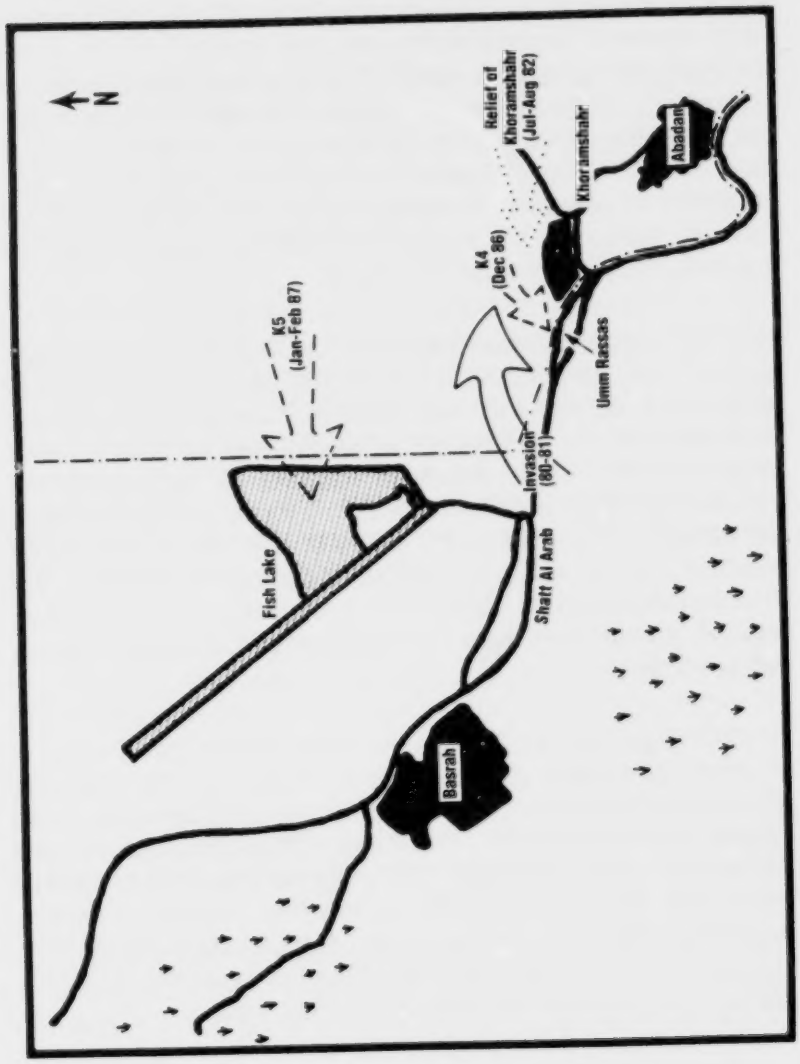

Figure 5. Basrah and Vicinity.

It is difficult to compute losses from the overall campaign. However, after it ended, Hashemi Rafsanjani told an audience in Tehran that there would be no further human wave attacks, as they were too costly.[18] Rafsanjani had been appointed supreme commander of Iran's forces after the campaign had ended, and had been ordered to correct defects that the campaign had shown. His statement verifies the fact that Iran's losses probably were major. It has been claimed that Iran experienced as many as 70,000 casualties. These estimates may be correct, although we suspect the Iranians lost fewer. The Iraqis, in our view, suffered about 10,000 killed and wounded.

The Iraqi side also reassessed its position after the Karbala Campaign. It concluded that things had gone well, and that the way was now clear to put into operation Tawakalna Ala Allah (In God We Trust), phase two of the strategy that had been worked out at the Baghdad Congress.

Tawakalna Ala Allah, 1988. Before summer's end, the Iraqi Army moved into the desert behind Basrah, where they erected huge mock-ups of objectives they intended to reclaim from Iran, and they began performing maneuvers on these. The multidivision "rehearsals," although extensive, were carried out in secret. Only after the war was it learned that they had taken place. In the world's eyes there had been no major strategy change; the Iraqis were doing as they had always done, sitting tight, awaiting the next Iranian invasion attempt.

Unexpectedly, the Iranians did not try to invade in 1988; for the first time since the start of the war their mobilization had failed, primarily because the Karbala Campaign had been a debacle which had turned many Iranians against the war. Moreover, Iran's war leaders had held a major strategy conference at which they decided that Iraq could not be defeated without extensive retraining of Iran's forces, which meant that ultimate victory could not come for over 5 years.

Deciding that further delay was counterproductive, Iraq's commanders struck at Al Faw on April 17, carrying out a

complex combined arms operation that resulted in the recapture of that prize (see Figure 6).[19] On May 25 they recaptured Shelemcheh, the salient pointed at Basrah, in just 8 hours.

In June they recaptured Majnoon—in 4 hours. After that the Iraqi Army concentrated on destroying Iran's forces rather than merely reoccupying territory. In a number of well-executed operations they captured enormous numbers of troops and weapons.

These final offensives by Iraq were mopping up operations. From the speed with which they were concluded, it is obvious Iran's army was disintegrating; in our view, the disintegration caused the defeat. We do not believe, in other words, that Iraq intended to destroy Iran's army; it aimed at nothing more than the reclamation of its territory. Nonetheless, by July 1988, Iran's army had been destroyed and Tehran had ceased to exist as a military power in the Middle East.

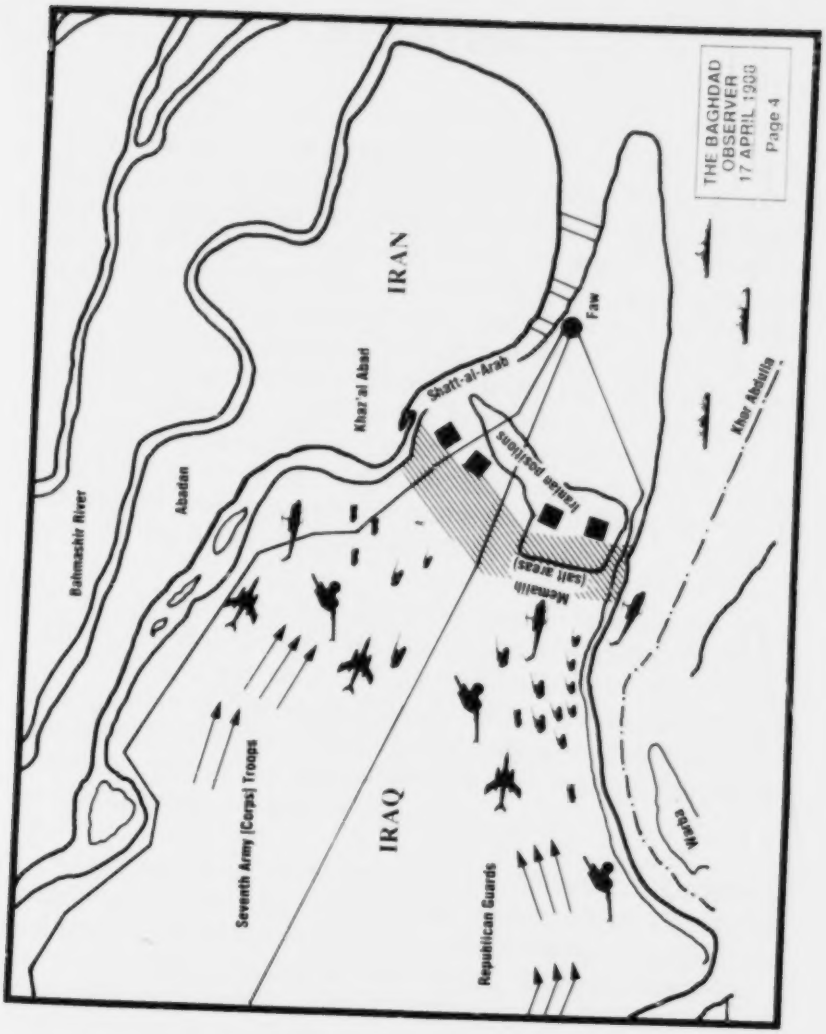

Figure 6. Al Faw - 1988.

CHAPTER 3

STRATEGY

We begin our discussion of strategy and operations by observing that at the start of the war both sides knew what they hoped to accomplish but neither had a well-thought-out plan to achieve their goals since both seem to have discounted the enemy. Iranian aims were to repulse the Iraqi invasion and then overthrow the Ba'th regime. Iraqi aims were to deal the Khomeini regime such a blow that it would cease interference in Iraqi internal matters. Within a relatively short time strategies began to develop, to which the belligerents mainly adhered. Throughout the war Iran stuck to its original plan of seizing Basrah. Iraq, correspondingly, set itself to prevent this, but then abruptly shifted objectives. A primary task of this chapter is to explain why it was driven to do so.

Iraq clearly mismanaged the initial invasion of Iran, floundering about, barely able to maintain its forces inside the country. To be sure, it performed well in isolated engagements—Susangard was a well planned, well fought battle; its capture of Khoramshahr, too, was impressive. But these operations merely proved the rule that, on the whole, Iraq's performance was inept.

Ineptitude seems to have been a function of Saddam's interference. He had enjoined his commanders to end the invasion quickly and to limit their losses.[20] He also wanted them to avoid taking actions that might expand the war, a contradictory policy. Saddam could not expect a quick resolution of the conflict unless he was prepared to take risks. Moreover, once the Iranians rose up and began to wage what amounted to a people's war, there was slight chance that the conflict could be kept limited.

At the same time, if we credit Saddam's claim that he intended only to recapture the Shatt Al Arab, his behavior is

somewhat understandable. In his eyes, the operation was more a coup de main than a real war—a quick, surgical strike to amputate a portion of Iran's territory, after which—if Khomeini were so disposed—the two sides would negotiate a formal settlement.

Saddam's mistake was in failing to consider what he would do if—as occurred—the Iranians opposed him. He seems to have relied on reports from Iranian emigres who reported widespread dissatisfaction with the clerics (particularly among Iran's middle class). Revolutions, however, are tricky affairs. The various groups making up a revolt frequently fall out—as occurred in Iran after the Shah's departure. But, they can just as quickly regroup against an external enemy, which is what happened when Iraq invaded.

Saddam erred from another aspect—he failed to cover his flank, as it were. At home, his position was none too secure. He had only acquired the presidency in 1979, and to preserve his rule had executed several Ba'thist opponents. Further, the Iraqi people were living well (they had one of the highest standards of living in the developing world) and people who are affluent—and anticipate becoming more so—do not generally look forward to going to war. In other words, he had a very narrow margin of support, and couldn't afford anything going radically wrong.

Given this uncertain situation at home, why did Saddam choose war in the first place? Apparently he felt he had to—Khomeini had been trying to stir up a revolt of Iraq's Shia community; he also was subsidizing a revolt of Iraqi Kurds. Saddam had warned Khomeini repeatedly to cease this activity and the Ayatollah refused. Finally, his patience having worn thin, Saddam acted.[21]

By now the reason for Saddam's cautious behavior should be plain. He wanted a "painless" invasion because he did not trust the Iraqi people to back him should the going get tough. In particular, he feared the disaffection of the army, which was 85 percent Shia. For at least the first 2 years of the war Saddam

regarded a religious revolt as threatening. This probably explains his use of Ba'thist militiamen as frontline fighters; he evidently trusted them where he was not sure of the regulars.[22]

Shortly after the war commenced Saddam got two additional inducements to limit its scope. The Soviets cut off his arms supplies, severely restricting his activities since they were his main supplier. (The Soviet Union throughout the war feared that the United States would use the conflict as a pretext for introducing troops into the southern Gulf, and consequently its leadership was enraged when Iraq, without prior warning, invaded.) The arms spigot was reopened in the summer of 1982, after Iran had launched its counterinvasion of Iraq, but while it remained shut, Saddam had real cause to fear. Along with this, early in 1982 (right after the initiation of Iran's human wave attacks) the Syrians cut off Iraq's major oil pipeline to the Mediterannean, leaving it with only one oil outlet through Turkey.[23]

It is interesting to note the parallels between Saddam's actions in invading Iran and Kuwait. He moves precipitously and then deals with the unpleasant fallout as best he can afterward (see Epilogue).

Settling Into the Defense. After the Iraqis had withdrawn behind their border in 1982 they urgently needed to develop a strategy. Nonetheless, in 1982 and 1983 the leadership delayed, being entirely occupied with the crisis confronting Basrah. By 1984 a strategy began to take shape—one of static defense. Given Iraq's situation, this perhaps was the best that the leadership could have adopted. Indeed it had significant advantages. (See Table 1.)

To begin with, it did not require great sacrifice from the Iraqi people, who were expected merely to hold the line against Iran's repeated invasion attempts. They did not have to actively attack the Iranians, since taking the offensive—under the strategy—was precluded. This, of course, held out the hope of sparing lives. Indeed for most of the war, Iraq got by without drafting its college youth.

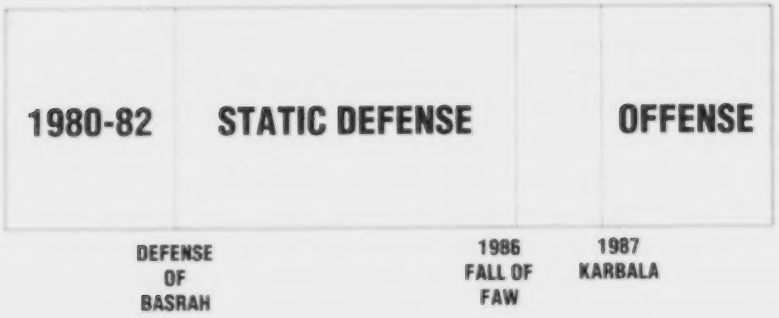

Table 1. Iraqi Strategy.

The strategy also was appealing from Saddam's personal standpoint. The Iraqi president is a highly authoritarian leader who seeks to control events to the greatest possible degree. Static defense permitted him to do just that. He could give orders and expect to see them carried out, since very little movement was occurring on the front and hence much activity could be managed from the Palace.

Finally, the strategy enabled Saddam to keep a check on his officers. He never really trusted the military, and it had been a characteristic of his rule to constantly spy on them. When the war started, political commissars, who did nothing but report back to Saddam, were attached to all units. This system was still in place in 1982, an indication of Saddam's continued distrust. By 1983, however, the security chief who managed the spy network was sacked, a tremendous liberation for the officers.[24]

Eventually, as the Iraqi commanders gained confidence and got to know their forces better, they began to take liberties with static defense. They did not strictly limit themselves to staying in place, waiting for the Iranians to attack. They mounted spoiling attacks to provoke the enemy into fighting before he was ready. They also ordered the Iraqi air force to break up concentrations of Iranian troops massing for the attack.

Such moves were all to the good, and showed a certain offensive spirit on the part of the Iraqis. Still, one could reasonably ask, what prevented them from going all out? By merely turning back repeated Iranian invasions, they condemned themselves to possibly waiting years for the war to end. What made them think a strategy of static defense would convince Khomeini to negotiate, when he clearly was bent on victory? The answer is that the Iraqis' version of static defense had another dimension, as they had a little something going for them on the side.

The U.S. Connection. During this period, Iraq was receiving aid from the United States. Washington did not wish to see the war expanded, but rather wanted it to end with a negotiated settlement, in which there would be no victor. This happened to be Iraq's aim also, at least since 1982, when the Iraqis retreated to the border.

In the war's opening phase Saddam certainly wanted Khomeini overthrown—in fact, this may have been his aim in invading.[25] After being repulsed, his objective changed—he then wanted to get the war over with in any way that he could, through a negotiated settlement if possible—which was precisely the U.S. view.

Negotiations between Baghdad and Washington to cooperate on the war began shortly after Iraq withdrew from Iran. By 1983, representatives of the two nations were meeting regularly in Europe and the United States.[26] Agreement came after Baghdad affirmed its support for the Algiers Accord, worked out between it and the former Shah of Iran. This would mean a return of the Gulf to the status quo ante bellum. On that basis, Washington saw its way clear to assisting the Iraqis. Washington undertook to mount Operation Staunch, a scheme to shut off arms to Khomeini. It also lobbied in the United Nations for a negotiated settlement. Finally, some evidence suggests that it sought additional oil outlets for Iraq.[27]

This outside assistance supplied a hopeful element to Iraq's static defense strategy. With the United States in its corner, it

could look forward to a satisfactory resolution of the conflict. Baghdad had merely to hold out until arms supplies to Iran dried up and the Tehran regime—finding itself isolated from the world community—agreed to a settlement. However, there was a flaw in Iraq's scheme—static defense only had a limited shelf life; it could not remain effective over a protracted time. The Iraqis hoped to wear out the patience of their foe, by impressing on him that they were too tough to crack, and therefore negotiations ought to be undertaken as the only sensible policy.

But if the slightest thing went wrong—if the Iranians got lucky and scored a breakthrough, or if an individual Iraqi commander was derelict and caused a debacle, the whole strategy would come tumbling down. This essentially is what happened in 1986—Iran got lucky. To understand how this occurred, the reader needs a bit of background.

An Iranian Attrition Strategy. The willingness of Iran's people to defend their country after Iraq's invasion in 1980 saved what otherwise might have been a disastrous situation. At the same time, however, the popular rising was not planned; this was a visceral reaction on the part of the Iranian masses to a takeover by Iraq.

Even with this fortuitous development, however, had Iraq not initially made so many maladroit moves, Iran might not have survived. By exploiting Iraq's mistakes, the Iranians were able to drive out the enemy. Once they had him out, though, they should have devised a strategy to take the war to its next phase—this they did not do. Iran's initial attempts to seize Basrah were senseless. They relied on wild charges, with nothing subtle or sophisticated about them.[28]

Something resembling a strategy did not begin to emerge on the Iranian side until mid-1983, and then it was Iran's regular army officers who were responsible. The military's plan to switch to a war of attrition made sense. It exploited Iraq's manpower limitations, and also took advantage of the

disaffection from the Ba'thist regime of Iraq's Kurdish minority, by staging operations in that volatile area.

We believe that the attrition strategy had a great deal of merit; nonetheless within a year it was scrapped, and Iran had reverted to trying to score a tactical breakthrough against Basrah. Why? There appear to have been a number of reasons. First, was the Pasdaran's collective psychology. At the outset of the war, it was not constitutionally suited to perform small unit operations, which essentially are what the border raids constituted. The Pasdaran operated best en masse, when they and their Basij support troops could throw themselves at the enemy in an ecstasy of religious exultation. Moreover, the Basij in particular did not have the training for such operations. The Basij were called up for limited tours, usually no more than 3 months, after which they returned home never to see service again, their military obligation having been fulfilled. Thus they did not have a chance to become competent soldiers, and could not perform maneuvers more complex than a straight-ahead charge. In the mountains of Kurdistan (where the hit-and-run raids largely occurred) the Basij were next to worthless.

Along with this, the attritive strategy required expert planning and disciplined execution which could only be supplied by the regular army officers. An intense rivalry was developing between the Pasdaran and the regulars, and—as may be imagined—the Pasdaran chaffed at being directed by the professionals.

So it is not surprising that, by the end of 1983, the Pasdaran had talked Iran's clerical leadership into reviving the human wave attacks, and refocusing the war on Basrah. Because the clerics favored the Pasdaran and, more to the point, because they mistrusted the regular army officers, they acceded to the shift.

We regard this decision—to abandon the war of attrition—as a fateful error on the Iranians' part. What they needed was to harness the energies of the two groups—the

Pasdaran and the regulars. By opting for a return to human wave attacks, the clerics were, in effect, freezing out the regulars, a move for which they would ultimately pay dearly.

Iranian Challenge at Al Faw. Although the Iranians subsequently dispensed with the attrition strategy, while it lasted it made a deep impression on Iraq's commanders. It put them under extreme pressure. Repeated raids up and down the whole 730-mile frontier ran them ragged. Had the Iranians kept this up—the Iraqi defenders, stretched thin all along the line—might have broken.[29]

To compensate for their perceived vulnerabilties, Iraq's generals expanded the army through an additional call-up of men,[30] relieving the pressure somewhat. Further, as noted in Chapter 2, they began an ambitious roadbuilding program, and they converted the Republican Guards into a mobile reserve to relieve areas under seige.

A student of strategy will appreciate the irony of these last two developments. The Iraqi generals—to maintain static defense—were actually enhancing mobility. Indeed, they were moving away from static to mobile defense—although at this stage, the move probably was not a conscious one. Nonetheless, it was lucky for them they began the switch when they did, given what was looming on the horizon.

Iran's capture of Al Faw in 1986 seized the imagination of the international news media, to whom it seemed a brilliant stroke of strategy.[31] In our view, Al Faw was a fluke. In fact, it was precisely the lucky stroke that we referred to earlier in discussing the limitations of static defense. We believe that the Iranians seized Al Faw for its publicity value, nothing more. Scoring a strategic advantage had nothing to do with it.

Khomeini's movement was based on his charismatic leadership. To maintain his mystique required continued successes on the battlefield. If the army failed, his followers' devotion was sure to flag, since failure implied the withdrawal of divine favor.

The Islamic Revolution had not had a success since it invaded Iraq in 1982. The Iraqis had defeated the Iranians in the mountains of Kurdistan and in the swamps around Basrah. And, whenever they came out onto the Basrah plains, Iraqi tank fire annihilated them. As of 1985, therefore, the Iranians were not doing well, and the Islamic Revolution, as a consequence, was beginning to experience some serious disaffections in its ranks.[32] Searching for a cheap victory—something to buck up the waverers—the Pasdaran seized on Al Faw. Because there was nothing in the now-bombed-out city, the Iraqis barely had garrisoned it; it was up for grabs, so to speak.

After the Iranians seized Al Faw, they should have done something constructive with it. Even though it was deserted and inconveniently located, there were uses to which it could have been put. For example, it could have been a jumping-off place for an attack on Umm Qasr (see Figure 4). The seizure of this port city would have landlocked Iraq. Or the Iranians might have staged half of a two-pronged attack from there on Basrah—one column could have attacked north from Al Faw, while another struck due west across Fish Lake. Instead the Iranians did nothing. Essentially, after capturing Al Faw, they sat on it. This leads us to conclude that they lacked a plan for exploiting their victory; they wanted headline coverage, and beyond that, nothing.

A Conversion in Iraqi Military Thinking. Saddam, as we said, reacted with pain to Al Faw's fall, and ordered its immediate recapture. He seems primarily to have feared the loss of aid from Saudi Arabia and Kuwait, Iraq's principal financial backers.[33] The monarchs paid, as long as Iraq could provide protection from the Iranians. With the latter now established on Al Faw (within Silkworm missile range of Kuwait City), the monarchs had strong incentive to seek protection elsewhere, most likely from the United States.

Saddam, who at this point was cooperating with Washington, had no desire to see the Americans come into the Gulf militarily. That would have challenged his claim to being the principal guardian of regional security. Therefore he

Figure 7. Central Iraq.

determined to restore his credibility as a defender of the area no matter what the cost.

When Saddam failed to dislodge the Iranians from Al Faw, he sought to seize Mehran, and failed there also (see Figure 7). But, in this instance, the generals took the blame which we believe was unjust. Mehran's loss, was not—as it has been made out to be—their fault. Like Al Faw, Mehran was militarily insignificant. In the generals' view it was not worth stationing several brigades there to keep it from enemy hands. They therefore spurned taking the necessary precautions and, when the Iranians counterattacked, they willingly surrendered it.

The loss of Mehran—and the differing perceptions over its value—seem to have triggered a confrontation between Saddam and his generals which produced the Extraordinary Congress of the Ba'th. Some observers have suggested that the generals challenged Saddam's authority at this session; we strongly doubt this. From our research, it seems apparent that the war strategy was debated, and the generals made several persuasive points. Principally, they argued that static defense had run out of steam. The Iranians were preparing to conclude the war by the Iranian New Year, a challenge the Iraqis could not dismiss. At the same time, they could not hope to respond to it with static defense.

Having set the terms, so to speak, the Iranians were directing the show. They would require the Iraqis to fight, which was inevitable, since they would hardly break off battle until they had forced a decision. Moreover, with two mobilization corps of 100,000 men each, it appeared that they could afford to go on pouring Basij into the breach, in effect, forever.

A long battle would inevitably entail a number of phases, and not, as in the past, be a single intense engagement followed by disengagement. Moreover, after their 1986 success at Al Faw, the Iranians almost certainly would attack during January or February, the height of the rainy season, when Iraq's armor and aircraft were of limited utility.

Strong, highly motivated infantry was required to stand up to this threat, the generals argued. There also had to be plenty of it. The generals were proposing that Saddam order a general call-up. Among others, they would summon college students, who to date had been spared. They would enroll them in elite brigades, newly formed Republican Guard units. Such units had a mystique about them, which, the generals believed, would appeal to college youth. The generals would take the newly formed units into the desert and train them in aggressive warfare techniques. They would do this all more or less covertly.

This was the strategy put forward by the generals, and it is somewhat surprising that Saddam accepted it. First, the new strategy was contrary to his fundamental principle of not risking lives. Second, inducting middle class youth was an extremely risky proposition. As the United States discovered in Vietnam, this could produce an explosion of political opposition to the war. Finally, under the generals' strategy Saddam would be relegated to virtual observer status. In the past, all operations had been tightly controlled from the Palace; this could not be under the new setup. Operations had to be decentralized; from the Palace Saddam could not direct a campaign that was expected to go on for weeks and pass through successive phases to a decisive conclusion. Even if some way could have been found to let him remain in charge, he was not a military man. He had no idea how to impose defeat upon an enemy.

The Generals Take Charge. After Saddam agreed to change strategies—in effect substituting mobile for static defense—the generals took charge. They directed the call-up, taking this new class of conscripts and organizing them into Republican Guard brigades, allotting some to armor and some to artillery, but most to infantry.

All told, the Iraqis were able to raise the total of Republican Guard brigades from 7 to approximately 28. The generals apparently believed that nothing less would suffice. They seem to have decided that frontline units were liable to crack, given the extraordinary pressure to which they would be subjected.

To ensure against such a catastrophe, they determined to back these units with numerous reserves held ready behind the lines for use as emergencies developed. In Appendix A we discuss this innovation, which, we believe, constitutes an important element of the Iraqis' strategy. Moreover, it addresses the oft-heard question of how the Iraqis use their reserves. While Western armies usually employ reserves to reinforce success or launch counterattacks, the Iraqis frequently used theirs to salvage deteriorating situations at the battlefront and also to deliver the death blow to enemy units trapped in the planned killing zone.

This also accounts for the extraordinary size of Iraq's army. It is a mass army, in which practically all available manpower is used. The Iraqis use four men where other armies would use one—not because they are unaggressive, or need moral reassurance at the front, but rather to take every possible measure to assure success and, to their way of thinking, to reduce casualties.

Iraq's generals initiated other changes in their modus operandi. For example, they changed their conduct of the air war. They began large scale air attacks on Iranian economic targets. They had gone after these in the past, but never on a sustained basis. Starting in the fall of 1986, with a devastating raid on Iran's major oil refinery in Tabriz, they inaugurated almost daily assaults on the Iranian economic infrastructure. They also began hitting targets deep in the Persian Gulf, using midair refueling techniques, and striking Iranian civilian targets, reviving the war of the cities. That the phase of limited war was ending was plain from this activity.[34] (The authors find it significant that this shift comes just at the time Irangate was revealed, indicating that the Iraqis had no further incentive to cooperate with the United States in keeping the war limited.)

A Cautious Final Victory. When the Karbala battles finally came, the results for Iran were devastating. The Pasdaran were smothered under a rain of Iraqi fire. Individual Pasdaran, armed only with their RPGs and rifles, were exposed to Iraq's artillery, helicopters and infantry forces supporting the armor.

It appears that the Iranians did not immediately appreciate the changed conditions. Because of their primitive communications, Pasdaran headquarters seems not to have known what was happening at the front. It continued to pour men into the battle unaware that they were being slaughtered.

Moreover, this time the Iraqis were not content merely to stop Iran's invasion and compel the Iranians to withdraw. Once the invasion was halted, the Republican Guard reclaimed lost territory up to the Jasim River. To be sure, the Iraqis had attempted to take back territory in 1984, in the fight over Majnoon Island. Then they had failed for want of infantry; now, with infantry, they succeeded.

Karbala still was not pure offense; Iraq would not take that step until the following year. It was rather a transitional phase, midway between static defense and offense. It was also transitional from another aspect—in Karbala V, the Iraqis shifted their focus to the enemy's army, with the aim of inflicting maximum punishment on it. A Western diplomat—commenting after the campaign—said, "The Islamic Revolution bled to death in Karbala V." General Rashid certainly seems to have been of that opinion, having boasted after the battle that "we harvested them."[35] But Rashid was always the harshest and most outspoken of the Iraqi generals, the one who chaffed at being held back. As a whole, the General Staff—despite the great victory—seemed to have remained wary.

This wariness is evident in their approach to the next phase of their strategy, the Tawakalna Ala Allah campaign to recapture territory taken by Iran from Iraq. As soon as the Karbala battles were ended, they went into the desert behind Basrah where they constructed scale models of Al Faw, Shelemcheh and Majnoon—areas that they intended to reclaim. They rehearsed exhaustively with their troops—then abruptly put the operation on hold, deciding to link the recapture to Iran's anticipated offensive. They would let the offensive commence; they would blunt it, and then launch their own limited offensive to regain territory. Only when it finally

became apparent that there would be no new Iranian offensive did the generals go ahead and retake Al Faw.

Our theory to explain their behavior is that they did not want to risk failure. By waiting for Iran to attack, they could better control the outcome. If their recapture attempts were successful, the world would witness their great victory. If they failed, they could always say they were merely straightening out their lines.

When the peninsula was retaken in just 36 hours, General Rashid, who had led the attack, expressed astonishment. It seems that the Iraqis had budgeted 5 days—further evidence of their conservatism. (At the same time, however, the Iraqis did not hesitate to overrun their phase lines. At the beginning of the war, we witnessed them constantly halting when phase lines were reached. So this, indeed, was progress.)

"The bridge that was spared" provides additional evidence of the generals' conservatism. The Iraqis deliberately left one bridge intact between Al Faw and the Iranian mainland which the Iranians used to make good their escape. An army bent on invading Iran certainly would have wanted to sever the defending army's escape route. In a similar vein, we note that at Shelemcheh Iraq made no attempt to cut off Iranian troops, nor to seize weapons. Shelemcheh was a straight-ahead bulldozing assault; the Iraqis simply drove the Iranians off their territory.

By the time of Majnoon, the generals obviously had begun to perceive the war was ending. They then began thinking of peace negotiations to come, and bargaining over prisoner repatriation. The Iranians held many more prisoners than the Iraqis, providing them an inducement to take as many Iranian prisoners as possible, along with masses of abandoned Iranian equipment. In the process of looting Iran, the Iraqis conducted several deep penetration raids, some up to distances of 40 to 60 miles. Eventually, Saddam ordered these discontinued, with a return to the international border. The generals complied, but some evidence indicates that—had they been

allowed to do so—they would have seized Khuzestan, their original objective in the war. (See Figure 8.)

The final point we would make is that until virtually the last 2 months of the war, the Iraqi leadership was attempting to limit the conflict. This they barely could do because of the generals' aggressiveness. At the war's end Iraq's army had come into its own.

The Meaning of Victory. Summing up then, what does this mean? The Iraqi Army, in our opinion, has evolved—by stages—from a personal instrument of the leadership into a national institution, dedicated to suppressing Iraq's external enemies. The progression is clearly discernable from viewing the army's behavior during the initial invasion, as compared to its performance in the final campaigns. In the beginning it demonstrated little capacity for independent action; by the war's end it had achieved virtually complete operational control.

The key event in this transformation was the decision to accept Iran's challenge to make 1987 the decisive year. After that, the whole course of the war changed. It is important to note that the decision caused friction between Saddam and the generals, but at the same time it does not do to ascribe this friction to politics—the generals were not trying to make an issue of Saddam's handling of the war in order to depose him.

Nor does Saddam appear to have been trying to muzzle his commanders. Rather, he does not seem to have been fully persuaded they could handle operations successfully on their own. An interesting conjecture arises here. In our view the deadlock at the Congress was broken by Defense Minister Adnan Khayrallah. Since we think this may throw light on decisionmaking in the Iraqi leadership, we will expand on our theory.

Throughout most of the war, Khayrallah was a nonentity. He was a courtier of sorts, someone whom Saddam used. His reputation among observers was that of an errand boy.

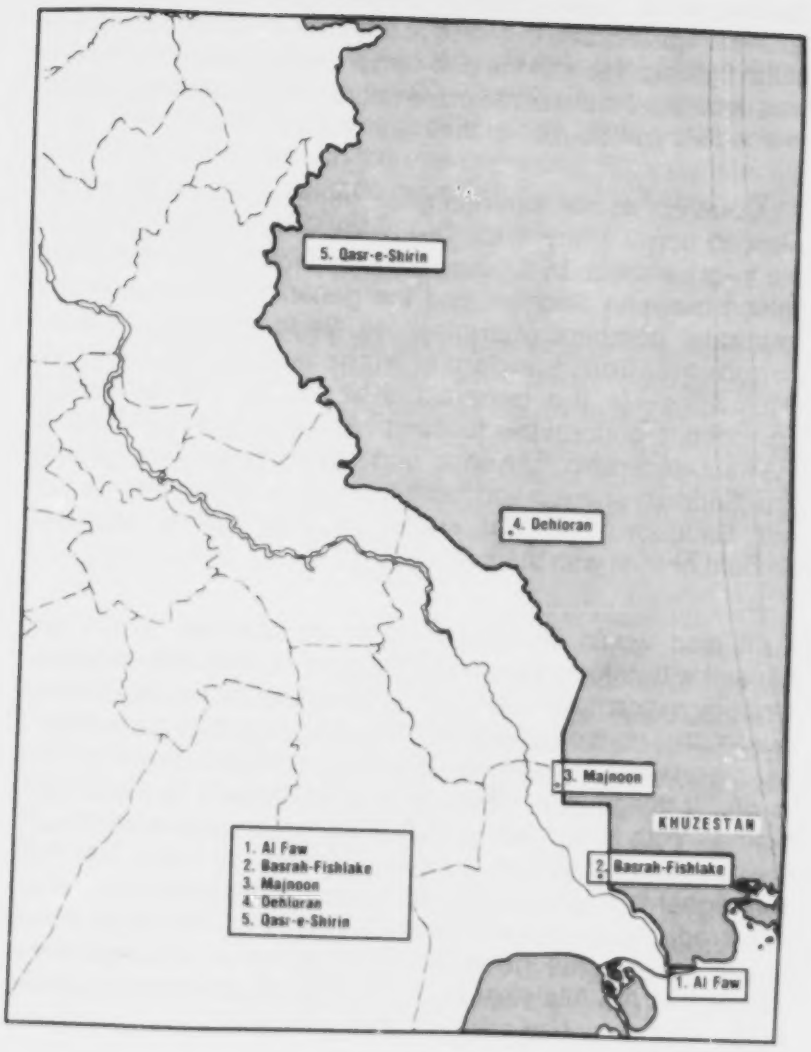

Figure 8. Final Battles.

Suddenly, after the Congress—and most definitely during the conduct of the Karbala battles—he emerged as the man of the hour. He was the one depicted at the front directing the course of the fighting. He was the one—after the fight was over—who was decorated in the name of the entire army. Saddam publicly praised his contribution to the great victory.

Courtiers do not turn into great generals overnight. What went on here? Khayrallah—we believe—achieved a place in the Iraqi pantheon by fulfilling a needed role. He became the liaison between Saddam and the generals, interpreting the generals' complex operations to Saddam, and, in turn, communicating Saddam's wishes—and we assume misgivings—to the generals. Khayrallah was eminently equipped to perform this function. As the only army officer in the Iraqi leadership,[36] he could understand the military. He was also Saddam's cousin and brother-in-law, and had been raised with Saddam as a child. Hence he commanded a certain amount of trust with the president.

It also would be characteristic for Saddam to provide himself with a face saving mechanism, in case the generals' strategy miscarried. After he had agreed to allow the generals operational control, it became necessary for him to take a back seat, as it were, to the main action, something quite unlike him to do. If things went badly, he would not want to accept the blame. With Khayrallah exposed as the apparent director of the Karbala campaign, it would be easy to make him the scapegoat for any disaster. As things worked out no disaster occurred, and as a result Saddam seems to have been more willing to give the generals the freedom to proceed with Tawakalna Ala Allah—at the end of which—in the eyes of all Iraqis—the army had covered itself with glory.

We make a few final observations about the Iranians. What went wrong with them? We believe that their major error was failure to effect a reconciliation between the Pasdaran and regular army. Had they done this, they could have exploited the enthusiasm of the Pasdaran and the expertise of the regulars, providing a fallback position when—as occurred at

the end—things began to come apart. When Iraq took the offensive, the Pasdaran was unable to cope. The unschooled, ill-trained Pasdaran had but one arrow in its quiver—the straight-ahead charge. It had very little understanding about defensive operations, so to mask its ineptitude it tried—after Iraq had begun to score against it—to conduct offensive operations other than on the main warfront. For example, the Pasdaran mounted spectacular attacks on shipping in the Gulf, which ultimately provoked the United States to enter the war in the reflagging episode.

The Pasdaran also tried to foment a major insurrection in Iraqi Kurdistan. But the worth of these operations is questionable. It would have been better, by far, had it focused on destroying Iraq's forces. But, at no point did the Pasdaran attempt this. Practically its whole effort was aimed at seizing Basrah; when the Iraqis demonstrated that this would not be possible, it tried to seize other territory in Kurdistan and, ultimately, in Kuwait.[37]

We believe that exposure to Iraq's combined arms operations at Karbala V demoralized the Revolutionary Guards, who recognized that they were helpless against such tactics. When the Iraqis took the offensive the following year and, in effect, compelled them to fight, the Iranians panicked. Some observers have suggested that their panic was inspired by Iraq's use of gas in the initial battle, Al Faw. We have found no evidence that it was used in this engagement. It may have been used in other battles in the Tawakalna Ala Allah campaign, but only tactically, not as a weapon of mass destruction (see Appendix B—Chemical Weapons).

The Pasdaran began the war as self-recruited shock troops of the revolution; it ended as a kind of *landsknecht*, that is, a band of military adventurers—a breed that inevitably appears whenever wars drag out beyond a reasonable limit. This phenomenon (of the appearance of *landsknecht*) is one of the leading indicators of a system's collapse.

We believe that this was occurring—not only to the system in Iran, but to the whole Persian Gulf state system as well. The war simply went on too long. The final convulsive effort of the combatants to force a decisive ending destroyed Iran and completely transformed Iraq. Recall, Iraq began the war with only a 180,000-man army; it ended with the fourth largest army in the world. The Persian Gulf could not accommodate a change of this magnitude. This is a theme we intend to amplify in the Epilogue.

CHAPTER 4

TACTICS AND OPERATIONS

From an operational standpoint, the first lesson of the war is that combined arms operations eventually solve everything. Indeed the ability to conduct such operations is the true test of a modern army. It took the Iraqis some time to perfect the combined arms approach, and they did not display confidence in this style of fighting until Karbala V. From their performance in that battle—and from their operations the following year—we have concluded that they have made the transition from unsupported armor assaults to integrated combat power.[38]

Some justification exists for the Iraqis' employment of single arms in the war's early stages. Since they had a great many tanks but suffered from a fundamental three-to-one population imbalance, their normal first reaction to an Iranian attack was to use their single strongest asset, large and medium armor units. However, the Iranians shrewdly chose to mount their major operations on terrain where the Iraqis' armor would be at a disadvantage. In marshes or mountains such elements were greatly restricted, and fanatical Iranians armed with RPGs could neutralize them easily.[39]

The "dilution factor" also contributed to the delay in developing combined arms units and operations. Iraq's army expanded several times over the 8 years of warfare; in the end it was five times the size it was when the war began. This constant ratcheting up in size affected the ability of units to perform competently as combined arms teams. In the normal process of training, individual proficiency comes first, followed by crew proficiency, followed by combined arms team proficiency.[40] In the Iraqi Army the progression was continually being short circuited as units were urgently needed at the front before their training was completed. (See Chapter 3.)

A third probable explanation of why it took the Iraqis so long to adopt combined arms tactics was the aforementioned factor of limited manpower. Effective combined arms tactics inevitably expose infantry. Until one has confidence in the synergy of the system—and thus comes to believe that exposing the infantry is actually the best way to protect it—one is caught in a dilemma. As long as keeping casualties low is the governing criterion for combat operations, it will be difficult to make the leap of faith into combined arms tactics that will actually result in lower casualties. For the Iraqis, holding down casualties was the dominant concern throughout the first few years of the war.

With these constraints, it is remarkable that the Iraqi Army made the transition to combined arms as effectively as it did. It is unlikely that it would have occurred at all had not the professional army leadership understood the advantages of combined arms and fought to develop the necessary training.

The final campaign represents the perfection of the Iraqi attempt to develop combined arms practices. In raising a new army with which to execute this offensive, the Iraqis did not have to reorient a force which had 7 years' experience largely in defensive operations. Instead, they were able, in effect, to start from scratch, taking fresh recruits and training them in the required doctrine. These new forces were the beneficiaries of tested training techniques, experienced cadres, and especially of training time. They were able to complete the entire cycle of training up to and including brigade level exercises. As they began operational training for the final campaign, their use of mock-ups—upon which entire divisions trained repeatedly—was highly effective.[41] These final training exercises validate the virtue of training on "real ground" for solving the problems of synchronization of movement and fire—problems evident in our own forces that are often revealed by the realistic exercises at the National Training Center.

Admittedly, the battles of the final campaign had a certain drill-like quality about them since the Iranian Army was reduced

to a hollow shell. The fact remains, however, that the operations were an astonishing success, achieving all the stated objectives within extraordinarily short timeframes. The forces involved then rapidly regrouped and began practicing the next operation. One cannot help but recall Vegetius' observations on the Roman army, that their drills were like bloodless combats, their battles like bloody drills.

Close Air Support. The Iraqis were roundly criticized early in the war for not integrating close air support. For reasons perhaps best articulated by Major Ronald Bergquist in *The Role of Airpower in the Iran-Iraq War*, the Iraqis did not have or make the commitment to a close air support system.[42] Shortly after the war began, however, the Iranians began employing helicopters in the close air role. Not long after these Iranian employments the Iraqis followed suit; the American-style Iranian helicopter interventions had obviously made an impression. Helicopters became the Iraqi Army's close air arm.[43]

The integration of this element into the combined arms team took time, however, and for a while the Iraqis used helicopters in a way Westerners would not expect, employing them as indirect fire assets. In this maneuver, rocket-loaded helicopters would fly to positions behind the front lines, orient on the target, pitch the nose of the helicopter up and launch.[44] This is a variation of some ideas that have existed in the American artillery and helicopter communities for some time. The practice is unusual, however, and probably not too efficient, except for providing area fire. In this sense it was reasonably effective against troops in assembly areas or in large attack formations such as those presented by the infamous human wave attacks. In addition, the technique undoubtedly has some value as a form of harassing and interdiction fire.

While we cannot be certain, it appears that by about 1985 the Iraqis began employing their helicopter assets in a more conventional role. During 1988, the "brave knights" of the helicopter force were cited in the daily war communiques as

making a certain number of sorties along with the "hawks" of the Iraqi Air Force.[45]

Estimates are that each side lost 250 helicopters in the war. The bulk of the losses were to the Soviet ZSU 23-4 23mm system.[46] There has been only limited discussion of the effectiveness of attack helicopters in their various roles. Evidence exists that the Iraqis used helicopters as chemical rocket delivery platforms. What type munitions were employed is uncertain, but it would most likely have been mustard gas.

Command and Control. The biggest mystery of the war is the behavior of the Iraqi command echelon. In its opening operations in 1980, Iraq's army moved as if it were a puppet on a string.[47] In the closing campaign of 1988, conversely it showed remarkable dash and flexibility.

Why was it so wooden in the earlier operations, only to loosen up later? The answer may lie in part with the changing composition of the officer corps. Iraq's army always had a small but solid cadre of well-trained officers. Indeed, the officer corps' roots go back to the Ottoman Turkish army, which was trained by officers from Kaiser Wilhelm's Imperial German Army. Then, when the British occupied Iraq, Iraqis trained at British schools and, under the Iraqi Republic, at schools in India, the Soviet Union, and Jordan. The General Staff does not, however, appear to have aligned its thinking with any one system although British organizational systems are evident.

When the Ba'th took power, many Iraqis became officers on the strength of their Ba'th Party credentials. In the first days of the war these "hacks" certainly caused problems, but the crucible of war assured their departure by one means or another within about a year and a half.[48] As the hacks disappeared the professionals took over, and they and the army matured with the war.

As the war progressed, the Iraqis demonstrated one Soviet characteristic that suited them very well. Once a commander was successful, he was promoted and given more

opportunities to show what he could do.[49] Toward the end of the war, two Corps commanders—Rashid and Fakhri—emerged as the trouble shooters of choice. They even achieved public stature through frequent media exposure, highly unusual in a society like Iraq's with the well-developed personality cult of the ruler. Rashid was something of a braggart, but was sufficiently successful that he was tolerated. Fakhri tended to be more taciturn and even morose. However, he is also a leading Ba'thist; hence that unusual combination, a political as well as military figure.

When the war began, the army was a relatively small force and command and control should have been relatively simple and straightforward. The initial operations were conducted on a very broad front, but against practically no enemy forces. The general outline of the tactics, as best we can determine, seemed to accord with standard military practice.[50] Still the performance of the Iraqi Army was remarkable for its stiffness. As noted, some of this could be explained by the stricture not to take too many casualties, but frequently the units would cease forward movement for days on end, without any discernable reason.

In the south, the Karun River line, at which the Iraqi advance halted, appeared to be a normal phase line, clearly identifiable and defensible. But other halt lines had none of the usual phase line characteristics. It seemed as if the units were stopping in response to an arbitrary line on a map—drawn by someone who had little or no military training. It is fairly well established that the Iraqi General Staff was capable of executing proper military operations; therefore, our opinion is that complaints about ineptitude and overly centralized control should be directed toward the Palace.

A further puzzling factor is the prolonged use in combat of the Ba'thist militia, the so-called Popular Army. Due to the militia's abysmal performance, the regular army experienced several defeats early in the fighting. Yet, it was still being used as late as 1986, when it virtually lost Al Faw for the Iraqis. This

is surprising for a force that had demonstrated its ineptitude so early on.[51]

One of the worst debacles of the war occurred during the 1982 counteroffensive in Khuzestan. There is some explanation for the initial reverses in this battle—the Iraqis were overextended and short, proportionately, of infantry and, further, they did not expect the violence or scale of the Iranian reaction. But at a point the Iraqi command structure seems to have become paralyzed, and this undermined the soldiers' confidence in their leaders. When the order came to withdraw, it was apparent to the men that it was too late and that certainly contributed to the rout. In general this looks like a debacle, but when we evaluate the actions of armies, we must be careful not to use the yardstick of experienced Western armies.[52] We need to look carefully at the total context and appreciate that we are looking into someone else's private world, as it were.

The Iraqi commanders were up against what to them must have been a strange and terrifying phenomenon: the human-wave attack. Going into Iran, they never anticipated facing waves of martyrdom-seeking Iranians. As one Iraqi commander put it, "It's horrifying; they swarm at you like roaches." As with our own initial experiences with the Chinese in the Korean War, much of the Iraqis' collapse in battle must be attributed to the unexpected nature and violence of this new tactic.[53]

One last point, relating to the final battles—some observers have denigrated these, claiming that the Iraqis were opposing a "hollow army." If one is willing to accept the proposition that Karbala V was the decisive battle of the war—as we contend—this criticism is not tenable. At Karbala V both sides were evenly matched in terms of manpower.[54] Iran had raised the largest army ever. Its troops were prepared for a victory, and went into battle armed with newly acquired supplies of TOWs.[55] Iraq won this crucial battle by exemplary command and control, excellent combined arms tactics and the remarkable bravery of its troops.

Fire Support. There were reports during the war that the Iraqis were unable to properly employ their artillery. There may be some validity to this although the structure was in place to accomplish Soviet-style fire support. In its crudest form, Soviet fire support is based on blasting a hole in the enemy defenses with overwhelming masses of fire. For years this style has been portrayed as a crude bludgeon. In fact, a fair-minded reading of German accounts makes clear that even in the early days of WWII the Soviets were relatively sophisticated in their use of fire support. They became significantly better as the war wore on and so, too, did the Iraqis.[56]

One observer commented that in 1985 he went to the Iraqi front and visited a regimental command bunker. Greeted by a forward observer (FO), he asked if there was a fire plan available and was shown a Vietnam style map and "measle sheet." Pointing to one of the many dots (targets), the observer asked to have fire brought on that point. The FO picked up the phone, uttered a phrase and the visitor observed the impact of rounds on target in less than a minute. That demonstration and most other available evidence indicates that the Iraqis prefer fixed fire plans. The evidence also suggests that because of their exceptional planning ability, fire plans and programs of fires are perfectly adequate for most of their needs. Seasoned artillerymen, however, will suspect unit commanders who always seem to work from an overly detailed plan. In defense of the Iraqis, they appear to be able to cast aside the plan when necessary. We must not forget that Operation "Blessed Ramadan"—the retaking of Al Faw in 1988—was supposed to take about 5 days. That it was successfully executed in 36 hours indicates a considerable degree of flexibility. How much of this flexibility was evident in the alteration of the schedule of fires we do not know, but it must have been considerable.

What was most impressive in the realm of fire support was the gradual integration of chemical fires. However much we may decry the use of chemicals, we know from our WWI experience that their integration is not a simple operation. As best we can tell at this time, chemical fires became a normal

part of all defensive fire plans and probably of offensive ones as well. Given that the Iranian Basij were seldom properly armed and less often protected against chemicals, it was effective practice to attack assembly areas with chemicals as soon as they were detected.

The Iraqis developed the tactic of gassing Iranian artillery positions.[57] We do not know exactly how the Iraqis deduced the effectiveness of this tactic, but we are certain that it became a standard part of their fire plans. We know from our own experiences that it is hard to work guns in full chemical protective gear. Less well known, but true nevertheless, is that the greater the amount of motion in a chemical environment, the greater the contamination as the chemical has time to seek out flaws in the protective garment at the seams and points of greatest motion.

Artillery support is best given from fixed positions where the ammunition can be handled once only. If the position is struck with a persistent chemical agent, it will only be a matter of time before the efficiency of the crews is degraded. If the option to displace to a new position is taken, there is the attendant loss of availability while changing positions. In either event, the quality of fire support is diminished. The Iraqis were regularly successful at this.

Another of their chosen targets was the command and control system. Whenever they could force the Iranian command elements to mask, they disrupted command and control functions and on some occasions may even have decapitated the command structure. It is possible that this happened at Al Faw in 1988, but the evidence is ambiguous. Stronger evidence for this view exists from the 1988 Fish Lake and Majnoon operations.[58]

Target Acquisition. We know little about target acquisition except that the Iraqis sought to buy as many target acquisition radars as they could properly employ. Target acquisition was a particular problem in the flat lands of Khuzistan and in the marshes of the border area, so the Iraqis appear to have used

the massive berms for observation posts from which they could control indirect fires and possibly helicopter gunship strikes.[59] It was primitive but apparently functional.

Position Defense. The evolution of the Iraqi defensive system is significant both for its thoroughness and for what it tells us about the Iraqi approach to problem solving. When driven back across their own borders in 1982, the Iraqis assumed the strategic defense and, operationally, the position defense. There is little doubt that they had been surprised by the violence of the fanatical Iranian reaction. Once the Iranian population mobilized against them, the Iraqi dispositions proved inadequate—they were spread too thinly along the border. As the existing forces struggled to hold the border, new brigades were formed and desperate attempts were made to put together a defensive network. What evolved would warm the hearts of Vauban, the 18th century French father of fortification, and Andre Maginot, France's 20th century Vauban. Vauban was an engineer whose defensive systems were based upon mathematical relationships among firepower, topography and earthworks. Theoretically, certain physical arrangements of fortifications and weapons could be created which would effectively preclude penetration of the defensive networks. Maginot carried the same theories forward into the 20th century and designed a national defensive system for France between the two world wars. Vauban's system worked, but Maginot's did not. The difference was that the Maginot Line failed to take into account the significant increase in mobility of military forces and their vastly increased striking power. This is not to blame Maginot, who had originally structured his system to handle changed conditions. He called for a large, mobile striking force behind the system which would deal with attempted penetrations. Unfortunately for France, the cost of Maginot's defensive works precluded the creation of that mobile reserve. Such poverty did not constrain the Iraqis.[60]

From the beginning, the Iraqis maintained a substantial striking force in their mechanized and armored divisions. These became the fire brigades which moved from point to point along the line to deal with threats to the system. In time,

the Republican Guard evolved into the principal strike force as it grew progressively larger and took on an increasingly elite character.

But the Iraqis did not simply build up strike forces, they complemented and supported this force through the construction of an extremely efficient system of roads behind the front. In effect, they constructed a system which gave them interior lines. This system was further augmented by a superb traffic control system and the purchase of over 2,000 heavy equipment transporters.[61] Using this network, the Iraqi high command could order division-sized units to move the length of the country and reasonably expect them to be in place within 24 hours.

The Iraqis are apparently capable of moving an entire corps this rapidly. Even though they were never opposed by a force of equivalent mobility, their ability to move as they did is no mean feat. The Iranians were aware of this capability and, in Operation Badr in 1985, attempted to disrupt the network by cutting through it. They failed at terrible cost.

Logistics. Logistics lessons must be addressed as an extension of the defensive system. Integrated within Iraq's system as it exists today are all the logistic establishments required for long-term operations.

The system is based on a road network. Located at intervals along it are medical, maintenance, and supply facilities. These are set up to support a specific area irrespective of the particular units stationed there. In this way, the facilities can be expanded to deal with a large influx of units, but they are most often augmented by rolling resupply.

With the wealth that oil provided them, the Iraqis have been able to put major portions of their supplies on trucks and shift them about as needed. When a unit moves from one sector to another, it connects into this system via its organic supply, maintenance and medical companies. To facilitate this operation the brigade has been made the basic functioning unit

of the Iraqi Army. These brigades are designed to be transferable among division headquarters.

This system also controls the flow of personnel. Throughout the war the Iraqis faced a problem of keeping up morale, which was aggravated by the extraordinarily long tours of duty. Remember, Iraq was outnumbered three-to-one. As a consequence, it was not unusual for Iraqi troops to serve up to 8 years on the front.

To alleviate this hardship, as soon as it became possible, the Iraqis instituted a very liberal leave policy. During predictably quiet periods, soldiers were allowed a week's leave a month. The soldiers could be trucked back to the main traffic arteries, pick up transportation there and move to one of the many privately-owned-vehicle parking lots, show the sentry their pass, identify their vehicle, and drive home. When they returned from leave, they were required to check in with one of the military police regulation points to verify the current location of their unit, since some units—especially the armored and mechanized—had a tendency to move rather frequently. There they would receive information as to the new location and directions to the closest parking/storage facility to which they would proceed. This sort of activity reflects not only innovative personnel policies but interesting traffic management as well.

What remains to be answered is the ability of the ground forces to project their logistic support structure beyond their borders. In the closing days of the war, the army drove deep into Iran and maintained itself with apparent ease; that it did not drive deeper appears to have been based on political considerations. Apparently, therefore, the Iraqis can project their military power professionally. (The invasion of Kuwait is also a conclusive demonstration of Iraqi ability to project and sustain a large force.)

A caveat, however, is that they were facing an opponent who was in ruins. The Iranian ground forces were little more than a shell at the time of the last offensives, and the Air Force

was little better, although it could have retaliated to some limited degree. While it would certainly be disrupted by air attacks, that so much of Iraq's logistical support system is truck mounted, and on a seemingly unlimited number of trucks, could compensate to a large degree for heavy losses.

Air Defense. This issue relates directly to the last. We do not know how good the Iraqi Air Defense system is. We can say, however, that it has improved significantly since the war with Iran began. In the early days of the war the air defense network was just being built.

Since the Iranian air threat never grew much beyond nuisance value, the air defenses were only slightly tested. Some obvious command and control problems remained late in the war, which were revealed by the shooting down of an Egyptian Alpha Jet over Baghdad while enroute to the International Arms Exhibition. That was unfortunate, but at least it shows Iraqi gunners know how to use the shoulder fired STRELA SA-7 weapon that shot down the jet.[62]

It is generally believed that the radar warning system is improving. Some radars are of French design, most are probably Soviet. Western analysts generally agree that air defense missile systems are few, and of older design which could easily be eliminated.

Gun systems—not as susceptible to ECM attack—are plentiful; however the Iraqis could use even more of them in a region where air power is frequently decisive. These are subject to attack with stand-off or area weapons systems.

If the Iraqis are going to protect themselves against air attack, they will need to purchase many more modern missile systems, tie them together in an integrated command and control system and augment them in greater depth to protect against stand-off attack. The Iraqi AWACS is now functioning and will give them some depth, but they will need redundancy in coverage with multiple AWACS and, more importantly,

training against highly sophisticated threats, before they will be able to maximize that asset.[63]

Professionalism in the Officer Corps. As noted in the Command and Control section, the picture varied over time and with officer rank. When the war began, the Iraqi senior officers comprised a mixed lot of politically reliable hacks, some politically reliable professionals and some apolitical professionals. The political hacks were purged.

The purge was condemned in the West, but the purging of incompetent officers is not unusual. If we recall the French experience of WWI, 75 percent of the division commanders were relieved within the first few months of the war. Further, as General Pershing was building the AEF in 1917, he simultaneously screened prospective division commanders and prohibited some from command in the theater, thus culling before the test came.[64]

Most of Iraq's higher level commanders appear to have been politically reliable professionals after 1982. Indeed, from 1984 on, the issue of competence seems to have been the principal deciding factor for advancement. (It is hard to explain the retention of the loud-mouthed General Rashid, Commander of the VII Army Corps, on any other grounds.)

Light Infantry. The most prominent lesson about light infantry is that, in the proper geographical/topographical situations, it can deal handily with armored forces unsupported by covering/accompanying infantry. Many of the Iraqi Army's most embarrassing moments resulted from attempts to crush Iranian infantry with pure tank attacks.

In the dry, open areas, tanks and a few accompanying APCs did an admirable job of slaughtering Iranian light infantry, but in the marshes, along the causeways, and in the cities, Iranian infantry, armed principally with RPGs, inflicted terrible losses upon Iraqi armor and several times stopped it cold.

As the Iraqis acquired more infantry, and as the lower level tactical handling of the troops improved, the slaughter of tank forces declined. There were still occasions when the terrain dictated a narrow frontal assault, as during the initial counterattacks to retake Al Faw in 1986, where only two avenues of attack were available for armored forces. These were along roads that stood above the water-logged swamps and the Shatt-al-Arab. Channelled along these avenues and ever mindful of the need to keep infantry losses to a minimum, these attacks took on the nature of tank rushes against dispersed light infantry.

Although the Iranians were able to inflict heavy casualties on the Iraqis with artillery fires from across the Shatt, evidence strongly suggests that the RPG armed infantry did the most damage. The Iraqis were unable to oppose Iran's infantry with their artillery because they either did not have or could not use time fuzes to make their rounds burst above ground. Where the rounds impacted in the marshes, they only burrowed into the mud. In this situation the efficacy of the light infantry could have been easily overcome, but was not for simple technical reasons.

It is growing increasingly clear that there is another solution: the application of fuel air explosives to infantry positions can have a devastating effect.[65] The Iraqis may already be aware of this. In any event, when the situation was right, light infantry showed itself able to deal with armor, but the ability to frustrate the infantry was easily available, and one is driven to conclude that light infantry forces are of very limited utility against a well-trained combined arms team. This is a very old lesson, but one that most armies have had difficulty learning.

Another aspect of light infantry, for which little information is available, bears deeper examination. The Iraqi Army made widespread use of "commando" and "special forces." Exactly what their function was is unclear. At the higher headquarters, the function of the commando units seems to have been raiding and deep penetration patrols. At these upper echelons, the

special forces may have overlapped in function with the commandos.

Late in the war, large numbers of additional special forces units were formed, which may have reflected a number of demands. First, they may have represented a need for specially motivated infantry forces with which to carry out the final operations. Second, they may have been ordinary infantry units composed of college student volunteers who were inveigled into these units by virtue of the "romance" of being in special forces, and many, in fact, may have received special training. It has been reported that the Iraqis were very good at executing deep penetration reconnaissance and strike missions, which they performed with a high level of professionalism.

Whatever the reasons for the appearance of these troops, one thing is certain—they represent the democratization of Iraq's military. Throughout its long history the ranks of Iraq's army were filled with peasants who were treated like cattle. The Republican Army troops are treated with respect—they are Iraq's equivalent of citizen soldiers.

Summary. We have derived the following lessons from the war:

Operational.

- The Iraqis are formidable in the defense. They are trained and experienced in the conduct of both positional and mobile defense.

- The Iraqi defensive modus operandi is to establish a deep, integrated fortified zone augmented by large quantities of artillery. These positions are secured by highly mobile, armor heavy reserves which move rapidly along specially constructed road networks. Command and control is flexible enough to accommodate infusion of large numbers of combat brigades within a small sector.

- The Iraqis have limited experience in projecting forces. For most of the war, Saddam Husayn held his army in check, restricting it to the defense. The President loosened the reins and surrendered greater control to the field commanders only after 1986. As a consequence, the generals were more experienced at reacting to enemy moves than to initiating their own operations. The final campaign of the war demonstrated, however, that they were able to project their forces deeply and sustain them for about a week.

- The Iraqis have demonstrated the ability to execute combined arms operations. Their successes, however, have been largely against light infantry forces.

- On the offensive, they prefer high force ratios, very heavy fire support, and the use of pre-attack rehearsals on mock-ups if possible. They are detailed planners, but are not inflexible. They are excellent problem solvers and will work diligently at solutions even making strategic adaptations if required.

- They have demonstrated the capability to integrate chemical weapons in both defensive and offensive operations with good effect; they do not use chemical weapons as weapons of mass destruction. Preferred chemical targets are artillery, logistics, and command elements.

- The brigade is the basic combat formation. Divisions have been seen controlling many more than the traditional three brigades.

Tactical.

- Combined arms are now the norm.
- Deception operations are normal.
- Attempts will be made to isolate the battle area, with BAI and possibly chemical fires.
- Fire support will be heavy and may include chemical and/or fuel-air explosive attacks.
- The Iraqis prefer long-range artillery and multiple launch rocket weapons which outrange most U.S. weapons systems.
- CAS will be provided primarily by helicopters but they will seldom venture beyond the FLOT. Air CAS may support on call.
- The Iraqis will attempt to gain very high force ratios prior to attack.
- A mobile defense can be expected unless time permits development of a deep fortified zone.
- Conduct of the defense will involve attempts to lure attackers into fire traps and killing zones. The defense will be formidable.
- Level of infantry aggressiveness is uncertain.

EPILOGUE: IRAQ AND KUWAIT

From a purely military strategic aspect, we need to say something about the invasion of Kuwait. This invasion seems to contradict Iraq's apparent preference for a strategic defensive orientation throughout the war with Iran. We noted how the Iraqis maintained a static defense for most of the war and only grudgingly went over to the offense in the very last days. In our Tactics and Operations chapter we opined that Iraq's ability to project power was limited, and that its commanders were not comfortable on the offense. And yet within 2 years after the war's end, the Iraqis invaded their southern neighbor. Why?

Conventional wisdom maintains that Iraq always was covetous of Kuwait, and that, indeed, the nature of the Ba'thists is to be expansionist; in invading, the Iraqis were merely following their instincts. This explanation does not hold up. Why, for example, if they desired territory, didn't they seize Khuzestan at the end of the war when Iran was prostrate? Why did they not at least ensure themselves control of the Shatt Al Arab? By withdrawing completely from Iran and turning the issue over to the United Nations for a settlement, the Iraqis behaved as responsible members of the world community.[66]

Nor does it seem reasonable to argue that Iraq invaded Kuwait because it thought it could get away with it. Throughout the war, the Iraqis had ample evidence of the importance of Kuwait to the superpowers. The reflagging episode (in 1987) demonstrated clearly that the Soviet Union and the United States would defend Kuwait's integrity. Therefore, Iraq could not have hoped to take possession of Kuwait without opposition.

Taking all this into account, it seems obvious that Iraq invaded its neighbor because it was desperate. It had a million man army that it could not demobilize, because it had no jobs to send the men home to. It had no jobs because its economy

had been ruined by the war. It could not get its economy going again until it demobilized. Thus the Iraqi leadership saw itself trapped in a vicious dilemma. At the same time, Kuwait was fabulously wealthy, and Iraq—by seizing it—could hope to exploit its wealth to resolve its economic problems. Iraq's desperate gamble may yet pay off, but, as of this writing, its leaders appear to have dug themselves even deeper into an economic abyss.[67]

The lesson would appear to be, never make war until you have assessed the potential of your opponent. Iraq's initial mistake in attacking Iran was in failing to appreciate the vast human potential that Tehran could exploit. Once the Iranian people rose to the defend their country, it was too late for the Iraqis to call off the invasion. Iraq could do nothing but fight on, committing more and more resources, getting mired deeper and deeper in the struggle. And, in the end—although it emerged victorious—it practically bankrupted itself.[68]

Clausewitz's dictum—that war should be considered an extension of policy—is applicable here. It makes no sense to resort to war unless it can be waged efficiently; otherwise one risks obviating the very policy that one is seeking to achieve. This clearly is what happened to the Iraqis. They went to war with Iran to achieve a limited objective—to retake the Shatt Al Arab. Under the circumstances, this aim may have been defensible. What was indefensible, however, was Saddam's failure to work out in advance what he would do if—as happened—he could not end the war quickly and successfully.

U.S. policymakers could draw a lesson from Saddam's experience. The United States and its allies are now poised for war with Iraq. It is prudent to ask how much support Saddam enjoys within his country. If his support is substantial, the commitment of substantial resources to bring about his defeat may be necessary. It will also have an impact on conflict termination and an assessment of the post- war burdens which are not yet defined.

Crucial to this question is the attitude of Iraq's army. We need to know how the army will react to a challenge from our side. This presents immediate problems, since—as our study has shown—the army is an enigma. Throughout most of the war it kept well in the background, and only came to center stage at the end. Nonetheless, it is essential to understand what is important to the military leaders, and how their attitudes might affect Iraqi decisions.

Based on research our answer is that the army is primarily concerned about its honor. A cadre of professionals in the Iraqi Army do not mix in politics; they exist solely to fight. At the crucial meeting of the Ba'th in 1986, this element argued for a military solution to the crisis produced by the loss of Al Faw. They brokered a scheme to win the war, implemented it, and—when they had proved themselves successful—they returned to the barracks.

This tells us that Iraq's military leaders will fight for the regime, as long as it respects their dignity. Correspondingly, if they perceive that a military challenge from the United States threatens Iraq's vital interests, they will not hesitate to fight with great tenacity. Understanding this lesson from the Iran-Iraq War, it seems sensible to carefully weigh our future course of action in respect to Iraq. If we fight Iraq, we should be prepared to defeat it as quickly as possible, since the Iraqi military has shown that it fights well on the defensive. If the Iraqis do not capitulate in the first days of the conflict, we can expect them to "hedgehog." They will wrap themselves around Kuwait and force us to pry them loose—a hideously expensive prospect, in lives as well as in resources.

ENDNOTES

1. The Soviet Union (and earlier, Russia) for centuries has viewed the Gulf as the soft underbelly of its empire. It therefore is constantly on guard against threats from that quarter. The U.S. interest in the region is based on oil. America is becoming increasingly dependent on the Gulf for its energy. A major tenet of U.S. policy in the Middle East is that it must have access to the area's vital oil supplies.

2. For example, the United States—as we discuss in the study—lobbied the world's arms suppliers to deny weapons to Iran. Similarly, the Soviet Union prevented vital arms supplies from going to Iraq in the first days of the fighting, hoping to force it to withdraw from Iran. And, of course, the U.S. Irangate deal is an obvious example of superpower interference in the war.

3. When the state of Iraq was created after World War I, former officers of the Turkish army comprised its General Staff. The Turkish military schools attended by these officers had been set up by Prussian officers supplied to the Sultan by the German Kaiser. Hence, the roots of the Iraqi military go back to the Prussian staff system by way of the Ottoman Empire. See Helen Chapin Metz, ed., *Iraq: A Country Study*, Washington: U.S. Government Printing Office, 1990, p. 220.

4. The antipathy of the Iranian clerics toward the Imperial Army was profound. They viewed it—with some justification—as the principal agency whereby secular ideas were disseminated throughout Iranian society. They also saw it as an agency of imperialism—they considered the numerous weapons deals that the Shah had made with the United States to be a waste of Iran's money. Certainly, the clerics would have destroyed the army had not the Iran-Iraq War forced them to relent. Eventually, most of the Shah's flag officers—some 500 in all—were executed. Altogether, over 10,000 military personnel of all ranks were purged during the first year of the revolution. Nikola Schahgaldian, *The Iranian Military Under the Islamic Republic*, Santa Monica: Rand, pp. 17 f.

5. For example, the Pasdaran believed it was their right to elect their officers. They frequently would veto the orders of their superiors. Further, the allegiance of the Pasdaran was to individuals not to units; the concept of formal authority was virtually meaningless to them.

6. Two important aspects of the war which are beyond the scope of our study have had to be neglected—we say virtually nothing about the Kurdish revolt against Baghdad and the so-called tanker war. The Kurds almost were able to transform the north of Iraq into a second front. That they ultimately failed was due to the intervention of the Turks, which is too

complex an issue to be summarized here. As for the tanker war, this was conducted by the air force, and therefore not germane, in our view, to a study that focuses on the land war. The reader should bear in mind, however, that Baghdad had to devote considerable resources to suppressing the Kurds and to interdicting Iran's oil exports through the Gulf. This complicated its task of bringing a successful end to the war, and hence it somewhat magnifies its achievement.

7. It is doubly unfortunate because already there are signs that the belligerents are rewriting the war's history to distort essential details. Western officers who were briefed by the Iraqis on the recapture of Al Faw noted at least one glaring revision. If this continues much important information will be lost forever.

8. Experts differ as to the losses in this campaign. Anthony Cordesman, *The Lessons of Modern War, Vol. II, The Iran-Iraq War*, Boulder: Westview, 1990, claims Iraq lost 2,000 killed, 6,000 wounded. Edgar O'Ballance, *The Gulf War*, London: Brassey's Defense Publishers, 1988, says 7,000 killed or wounded on each side. William Staudenmaier, *A Strategic Analysis of the Gulf War*, Carlisle: Strategic Studies Institute, U.S. Army War College, 1982, says 1,500 Iraqis killed and three times that number wounded. See Appendix F for our discussion of this whole vexing problem of casualty estimates.

9. Bani Sadr had espoused the cause of the regulars against the Pasdaran, who were the favorites of the clerics. As a result of the battle of Susangard Bani Sadr was forced to flee to Paris, and this removed the principal champion of the regulars.

10. The Popular Army served as the militia of the Ba'th when the party first took power in the early 1960s. Ultimately, it grew to over 650,000 members; however by the end of the war its membership had ceased to be comprised exclusively of Ba'thists. See John S. Wagner, "Iraq," *Fighting Armies: Antagonists in the Middle East—A Combat Assessment*, ed. by Richard A. Gabriel, Westport, CT: Greenwood Press, 1983, pp. 74-80; also David Segal, "The Iran-Iraq War: A Military Analysis," *Foreign Affairs*, Summer 1988, p. 955; also Metz, *Iraq: A Country Study*, pp. 224-225, 250.

11. Cordesman says that the Iraqis lost two mechanized brigades and two border guard brigades in the battle of Khoramshahr. O'Ballance says losses in the first half of 1982 were 30,000 Iraqis killed, 90,000 Iranians. Efraim Karsh, *The Iran-Iraq War: A Military Analysis*, London: IISS, 1987, on the other hand, says the Iraqis surrendered Khoramshahr without any resistance, and cites no casualties. See Appendix F.

12. Karsh says in return for a settlement Iran demanded reparations of $150 billion, the removal of Saddam Husayn and the repatriation of 100,000 Shias, whom, the Iranians claimed, Iraq had forcibly ejected from the

country. Meanwhile, radical clerics were demanding the annexation of southern Iraq and the creation of an Islamic Republic there.

13. Anthony Cordesman, "Lessons of the Iran-Iraq War: The First Round," *Armed Forces Journal International*, April 1982, p. 42.

14. The Ba'th Party which rules Iraq is the best organized political party in the Arab Middle East. It has over 1 million members, although only a relatively small percentage of these are card carriers, the rest being candidates for full membership in various stages of advancement. In Iraq if one wishes to get ahead one seriously considers joining the Party. Initially the Ba'th was a pan-Arab organization, but during the war this aspect of its ideology was downplayed and Iraqi nationalism was stressed. Since the Kuwait invasion, however, it appears that the Party may be veering back toward championing pan-Arabism again.

15. Shia Arabs make up 65 percent of Iraq's population; the remainder is mainly composed of Sunni Arabs and Sunni Kurds, in roughly equal proportions. Metz, *Iraq: A Country Study*, p. xiv.

16. Iran's population is almost 90 percent Shia. Kuwait's about 30 percent, Bahrain's 70 percent, and Saudi Arabia has a small population of Shias (about 500,000) which, however, is strategically located in the eastern province, the area in which U.S. troops are presently concentrated. See appropriate Country Studies as in Metz reference, above.

17. Treatment of the battle of Badr in the open sources is perplexing. All writers refer to it as a victory for Iran, in the sense that Iraq suffered heavy casualties. Our research has shown that Iraq's casualties were relatively low, and that Badr was at least as successful, for Iraq, as the preceding battle of Majnoon. See Cordesman, O'Ballance, Karsh and appropriate *FBIS* Reports of War Communiques.

18. *The New York Times*, July 5, 1987.

19. It is interesting to note how the Iraqis have handled Al Faw. Although originally the city was abandoned by them—and despite the fact that they attached no strategic significance to it—they later made a great deal of its recapture and have subsequently dealt with it as a national shrine.

20. Originally Saddam claimed the war would be over in two weeks. After the fall of Khoramshahr (October 31, 1980) he said that Iraq had achieved its objectives, and now would retain its buffer until it had negotiated the future of the Shatt with Iran.

21. Metz, *Iraq: A Country Study*, pp. xxiv, 61. Our assumption that Saddam was driven to go to war is based on his past activity. His 1975 decision to sign the Algiers Accord, for example, we find most significant.

In that agreement, Saddam signed away Iraq's rights to half the Shatt. (Although not President at the time, Saddam Hussayn had become the power behind the Presidency and, due to the President's illness, had begun to act for him.) He clearly was loath to do it, and only acquiesced to buy peace. (The quid pro quo was that if Iraq surrendered part of the Shatt, the Shah of Iran would stop funding rebellious Iraqi Kurds.) For awhile the agreement worked well; both Iran and Iraq concentrated on selling oil and building up their economies. Then the Shah was overthrown and Khomeini began exporting his revolution. Iraq, with the largest Shia community in the Middle East, was an obvious target. By October 1979 relations between Iran and Iraq had deteriorated—Khomeini appointed an ambassador to Baghdad whom the Ba'thists felt was an agitator and they asked him to leave; Khomeini responded by downgrading the embassy to a mission. Meanwhile, the leading Shia devine in Iraq, Muhammad Baqr Al Sadr, wrote to Khomeini asking permission to relocate to Iran. For a leading Shi'a to leave an area under such circumstances is tantamount to pronouncing it unfit for Muslims. Khomeini advised Sadr to stay put (*FBIS/ME&SA Daily Report*, December 3, 1979), claiming the source of his distress would soon disappear. Since Saddam was what troubled Sadr, this seemed a veiled attack on the President. Saddam may have so interpreted it because he jailed Sadr (*FBIS/ME&SA Daily Report*, March 31, 1980). This provoked riots among Sadr's followers (*FBIS/ME&SA Daily Report*, June 9, 1980). And in April an attempt was made to assassinate Iraq's now-Deputy Prime Minister Tariq Aziz, which Saddam attributed to Khomeini's followers (*FBIS/ME&SA Daily Report*, April 7, 1980). He executed Sadr, and that ended all hope of conciliation with Khomeini. In August 1980, one month before the war broke out, the Ayatollah called on Iraqi Shias to revolt (*FBIS/ME&SA Daily Report*, August 1, 1980). Along with this, Khomeini had resumed funding anti-Iraqi Kurdish groups, allowing them to use Iran as a safe haven. Since the aim of the Algiers Accord had been to to establish the principle that neither Iraq nor Iran would meddle in each other's affairs, Khomeini's actions—in Saddam's view—nullified the agreement, so he abrogated it.

22. Another indication of Saddam's mistrust of the Iraqis was his attempt to promote a policy of "guns and butter" in the early days of the war. Part of the reason Iraq went so deeply into debt was Saddam's determination to maintain an artificially high standard of living. In other words, along with doing everything possible to spare the lives of individual Iraqis, he tried to promote their economic well-being as well—because, we assume, he feared a popular backlash against the war.

23. As a consequence of Syria's cutoff, Iraq's revenue from oil sales plummeted, as, instead of exporting several million barrels/day, the total slipped to only 600,000.

24. Interestingly, when Saddam sacked his half-brother Barzan Al Tikriti as security chief he appointed in his place an army man, General Fakhri.

who subsequently cleaned house in the intelligence services, a move that must have pleased the military leaders.

25. At the start of the war Saddam made three demands of the Iranians as part of a proposed peace settlement. Primarily he wanted Iran to surrender several pieces of territory, some of which Iraq wanted for itself, others which were to go to certain Arab states in the Gulf. Technically, Khomeini could have acceded to these demands and remained in power. In fact, it seems likely that had he done so his prestige would have been crucially affected and his movement would have collapsed, which would have led to his downfall.

26. For stories on Iraq-U.S. cooperation see *The Christian Science Monitor*, November 19, 1984; *The New York Times*, July 11, 1984, and *The New York Times*, September 9, 1983.

27. For Iraq, one of the unexpected fallouts of the war was the loss of nearly all its oil routes. In the early days of the war, its oil line through the Gulf was cut. Then, in 1982, Syria, without warning, shut down Iraq's principal line to the Mediterranean, leaving it with only one line traversing Turkey. Ultimately, the Saudis agreed to open two additional lines for the Iraqis through the Saudi Peninsula. Until it secured this concession, however, Iraq's economic situation was dire.

28. After the fall of Khoramshahr in 1982, Iran modified the tactic of the human wave attack. At Khoramshahr and during its earlier campaigns in Khuzestan, the Iranians had infiltrated Iraqi lines prior to making their wild rushes. The one-two-punch effect of this maneuver disoriented the Iraqis. But later, when they stormed Basrah, the Iranians dispensed with the infiltration phase, and concentrated solely on the headlong charge. This was much easier for the Iraqis to handle.

29. Karsh says that starting in late 1981 Iraq doubled the size of its army, from 200,000 (12 divisions) to 475,000 (20 divisions) by 1983. This was the first major expansion of the war. The second came in 1986, after Al Faw.

30. The regime handled this call-up most gingerly—it reworked its principal propaganda vehicle, the Cult of Personality, to stress the paternal, caring image of the ruler Saddam. Iraq's propagandists repeatedly depicted Saddam surrounded by children—the subliminal message being that Saddam—as a dutiful father—would protect his brood, i.e., the Iraqi people. To back up the message Saddam gave numerous speeches in which he stressed that he would not wantonly waste the lives of frontline fighters. Even more interesting was the complete absence of any representation of war as a bloody pursuit. Iraqi soldiers were depicted as being impeccably dressed. They were never shown down in the mud, with the bullets whizzing past. Iraqi commanders were never identified by name

in publicity handouts, and war news was always read over television in a matter-of-fact delivery. Action shots of the front were rare.

31. The Western media handled the Al Faw capture in much the way it did the Tet Offensive. Western journalists made the loss out to be more disastrous than was warranted. The adverse publicity generated by the press was in part responsible for Saddam's decision to get Al Faw back. See *The Washington Post* and *The New York Times* coverage.

32. *The Washington Post*, May 18, 1985.

33. Over the course of the war Saudi Arabia, Kuwait and the UAE contributed an estimated $40 billion to Iraq's war effort. Baghdad considered this a grant; Kuwait, at least, seems to have regarded it as a loan. This misunderstanding was a major contributing factor to the recent invasion by Iraq of Kuwait.

34. As we define total war it means focusing on destroying of the enemy's forces. Until this point in the war, Iraq had not been doing this. In effect, it followed Iran's lead of focusing on Basrah—Iran dedicated all its efforts to seizing Basrah, Iraq correspondingly was committed to preventing the city from falling into Iranian hands. This made for a very primitive type of war, not far removed from the cattle wars of the ancient Greeks. When one adds to this the fact that Iran inducted Basij for brief three-month tours, freeing them to return home in time for planting, the comparison becomes peculiarly apt.

35. *FBIS ME & SA Daily Report*, January 20, 1987.

36. There were nine members of Iraq's supreme governing body, the Revolutionary Command Council, at this time. Only Khayrallah, a former tank officer, was a military man. See Metz, *Iraq: A Country Study*, p. 219; also see Islam Al Khafaji, "Iraq's Seventh Year: Saddam's Quart d'Heure?", *Middle East Report*, March-April 1988, p. 39.

37. Evidence suggests that the Revolutionary Guard nearly invaded Kuwait during the 1986 seizure of Al Faw. Early reports from Tehran claim they were actually advancing on Umm Qasr by way of Bubiyan Island, Kuwaiti territory. The Emir of Kuwait evidently credited these reports, because he travelled to Bubiyan and from there publicly declared the island off-limits to both Iran and Iraq. Further, throughout 1987 and early 1988, the Revolutionary Guards frequently fired Silkworm missiles at Kuwaiti territory from Al Faw.

38. Richard Jupa and Jim Dingeman, "How Iran Lost/Iraq Won the Gulf War," *Strategy and Tactics*, March-April 1990, pp. 51-52; also David Segal, "The Iran-Iraq War: A Military Analysis," *Foreign Affairs*, Summer 1988, pp. 956-957.

39. *Ibid.*, also Allesandro Politi, "Iran-Iraq," *Defense Today*, 9-10, 1989, pp. 328-330.

40. Department of the Army, *FM 25-100 (Draft), Training the Force*, Washington: U.S. Government Printing Office, 1990.

41. Stephen C. Pelletiere; Douglas V. Johnson II; and Leif R. Rosenberger, *Iraqi Power and U.S. Security in the Middle East*, Carlisle Barracks, PA: Strategic Studies Institute, 1990, p. 37, and endnote 105 (p. 87); also Richard Jupa and Jim Dingeman, p. 53.

42. Ronald Bergquist, *The Role of Airpower in the Iran-Iraq War*, Maxwell Air Force Base: Air University Press, 1988; also David Segal, pp. 956-957; also James Bruce, "Gulf War—A Dangerous Legacy," *Jane's Defense Weekly*, November 12, 1988, p. 1205.

43. Allesandro Politi, "Iran-Iraq," *Defense Today*, 9-10, 1989, p. 330; also Efraim Karsh, "Military Lessons of the Iran-Iraq War," *Adelphi Paper 220*, Spring 1987, pp. 38-39; also Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Vol. II, The Iran-Iraq War*. Boulder: Westview Press, 1990, pp. 437-438, 441-443.

44. Cordesman and Wagner, p. 441-443.

45. Foreign Broadcast Information Service reported all of the 3,000+ Iraqi War Communiques. The text of these communiques followed a standard format within which helicopter pilots were referred to as noted.

46. Politi, p. 328.

47. Anthony Cordesman and Abraham Wagner have a lengthy discussion of the faults of both the Iranian and Iraqi command system in *The Lessons of Modern War, Vol. II, The Iran-Iraq War*, pp. 412-422; numerous other commentators also made reference to this stiffness.

48. *Ibid.*; also see William Staudenmaier, *A Strategic Analysis of the Gulf War*, Carlisle Barracks, PA.: Strategic Studies Institute, 1982.

49. This practice is evident in David M. Glantz, "August Storm: The Soviets 1945 Strategic Offensive in Manchuria," *Leavenworth Paper #7*, Fort Leavenworth, KS: Combat Studies Institute, 1983.

50. Careful review of Iraqi tactics, in the early years of the war in particular, leave a mixed picture. The highly centralized command structure, the layering of the Popular Army with the regulars, the massive expansion which occurred later—all work against professional performance. However, there were reported instances of professional tactical behavior such as displayed at Susangard in 1981. See Edgar

O'Ballance, *The Gulf War*, London: Brasseys, 1988, pp. 62-63; and Efraim Karsh, "The Iran Iraq War: A Military Analysis," *Adelphi Paper 220*, Spring 1987, pp. 22, 34.

51. The Popular Army remains something of an enigma. It is clearly a political organ but it was committed to combat very early in the war with generally disastrous results. If, in fact they gained and maintained a strength of 750,000, then they have been an awful drain of manpower. (Cordesman, pp. 129-133, 192, 403 (footnote 1))

52. *Ibid.*

53. S.L.A. Marshall, *Commentary on Infantry Operations and Weapons Useage in Korea: Winter of 1950-51*, Chevy Chase, MD: Operations Research Office, 1951, pp. 5-7.

54. Nick Childs, "The Gulf War: Iran Under Pressure," *Jane's Defense Weekly*, May 9, 1987, pp. 899-500; also James Bruce, "Iran Waits Out New Offensive—Karbala 7," *Jane's Defense Weekly*, March 14, 1987, p. 397; Birgit Chara, "Breaking the Persian Gulf Stalemate," *World Press Review*, March 1987, pp. 21-22; also Richard Jupa and Jim Dingeman, "How Iran Lost/Iraq Won the Gulf War," *Strategy and Tactics*, March-April 1990, p. 50. Also Anthony H. Cordesman, *The Iran-Iraq War and Western Security 1984-87*, London: Royal United Services Institute, 1987, pp. 124-127.

55. Richard Jupa and Jim Dingeman, "How Iran Lost/Iraq Won the Gulf War," *Strategy and Tactics*, March-April 1990, p. 50; also James Bruce, "Soviet MIG Reinforcement for Iraq," *Jane's Defense Weekly*, March 21, 1987, p. 472; also James Bruce, "Iran Paying the Price of an Arms Embargo," *Jane's Defense Weekly*, November 29, 1986, pp. 1256-1257; also Anthony H. Cordesman, *The Iran-Iraq War and Western Security 1984-1987*, London: RUSI, 1982, pp. 128; also Gary Sick, "Trial by Fire: Reflections on the Iran-Iraq War," *Middle East Journal*, Spring 1989, p. 238; and Anthony R. Tucker, "Armored Warfare in The Gulf," *Armed Forces*, May 1988, p. 26.

56. Anthony H. Cordesman, and Abraham R. Wagner, *The Lessons of Modern War, Vol. II, The Iran-Iraq War*, Boulder: Westview Press, 1990, pp. 252, 424-425; also David C. Isby, "Arms for Baghdad," *Amphibious Warfare Review*, Winter 1989, p. 53.

57. Although not directly stated by any particular source, it is evident that the Iraqis attacked Iranian artillery regularly with chemicals. Conversation with foreign officers in the Middle East revealed that Iranian artillery had been very effective and had motivated a number of major changes in the Iraqi system including the purchase of longer range weapons systems which had chemical capability specifically.

58. This again, is the authors' conclusion derived from reading a wide variety of sources.

59. Carol Berger, "A Tense Wait Along the Border", *Maclean's*, February 1, 1988, p. 20; also "Iraq's Victory Rewrites Military Science for the Late 20th Century," *The Patriot News* (Harrisburg), October 10, 1988, p. A-7.

60. Alistair Horne, *To Lose A Battle, France 1940*, New York: Penguin Books, 1987.

61. Fredrick A. Axelgard, "Iraq and the War with Iran," *Current History*, February 1987, pp. 58-59.

62. Guy Willis, "Open Sesame!" *International Defense Review*, 6/1989, p. 835.

63. "Iraq," *The Military Balance, 1990-1991*, London: Brassey's, 1990, p. 106.

64. "FYI—World War I Failure Rate of Generals Within 90 Days of Entering Combat," *Strategy and Tactics*, March-April 1990, p. 8.

65. Kenneth R. Brower, "Fuel-Air Explosives—A Blow To Dismounted Infantry," *International Defense Review*, 10/1987, pp. 1405-1407; also see *Conventional Weapons Producing Chemical-Warfare-Agent-Like Injuries, (U)*, Washington: Central Intelligence Agency, 1990, pp. 6-8.

66. Iraq justifies its invasion by claiming that it was the victim. The Kuwaitis, by the Iraqis' lights, were deliberately scheming to prevent their economic recovery. They did this by overproducing on their OPEC quota, which had the effect of driving down the price of oil, and by pumping oil from the Rumelia field, the ownership of which is essentially joint. Further, Kuwait claimed its contributions to Iraq's war effort were a loan, and would have to be repaid. Also implicated in the plot—according to the Iraqis—were the United States and Israel. The U.S. Congress sought to impose economic sanctions on Iraq. Israel orchestrated a press campaign to turn world public opinion against Baghdad, which would clear the way for Israeli preemptive strikes on Iraq's defenses. In the face of this "conspiracy," Iraq felt justified in invading.

67. Many believe Iraq could have stopped spending on war related projects; money spent on arms could then have gone into the civilian economy. But, as Iraq saw it, it was under assault on several fronts. It faced a hostile Israel becoming more so; Saddam apparently had convinced himself that Israel was contemplating a preemptive raid against Iraq in April (see *The New York Times'* transcript version of U.S. Ambassador Glaspie's interview with him, September 23, 1990). Moreover, Iraq perceived that

Israel was working in the United States to subvert its economic recovery (by lobbying Congress through its support group AIPAC to pass economic sanctions against it). The combination of an actively hostile Israel and a passively hostile U.S. Congress apparently persuaded the Iraqis that they must maintain their armed strength to ward off possible future aggression.

68. Iraq's non-Arab debt at the war's end was probably around $45-50 billion; it owed Kuwait another $10 billion, and $25-30 billion to other Gulf states.

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APPENDIX A

KARBALA V

The Karbala V battle effectively broke the spirit of Iran's resistance. It demonstrated that—contrary to popular opinion—Iraq was willing to fight, and to incur casualties. It further showed that Iraqi commanders were able to deal with developing crises—they were not limited to set battles. We will look first at how the battle unfolded, and then give our analysis of what we believe went on.

The Karbala V battle was fought in five distinct stages. Stage one commenced on the morning of January 9, 1987, with an attack by the Pasdaran and Basij across the open space east of Fish Lake (see Figure 9). The area was screened by a single battalion of Iraqi infantry which presumably was overrun. The Iranians then boated across Fish Lake, disembarking on to the western shore where they made a dash for the Shatt Al Arab, 12 kilometers distant. They were intercepted and forced back to the lake by several brigades of presumably Iraqi Republican Guard infantry. The Guards held the Pasdaran to a bulge 500 meters deep by 5.5 kilometers. That ended Stage One.[1]

Unable to break out due west, the Pasdaran boiled around and erupted from the southernmost tip of the lake into the midst of the 11th Border Guard Division, which manned three separate lines of defensive berms facing east toward the international frontier, i.e., at a right angle to Iran's breakout. The Iranians penetrated between defensive berms two and three. The defenders occupying the second berm—having been taken on their flank—abandoned its northern portions and formed defenses at a 90 degree angle to the Iranians coming out of the bulge.[2]

Meanwhile Border Guards defending the eastern-most positions adjacent to the frontier began falling back, once they

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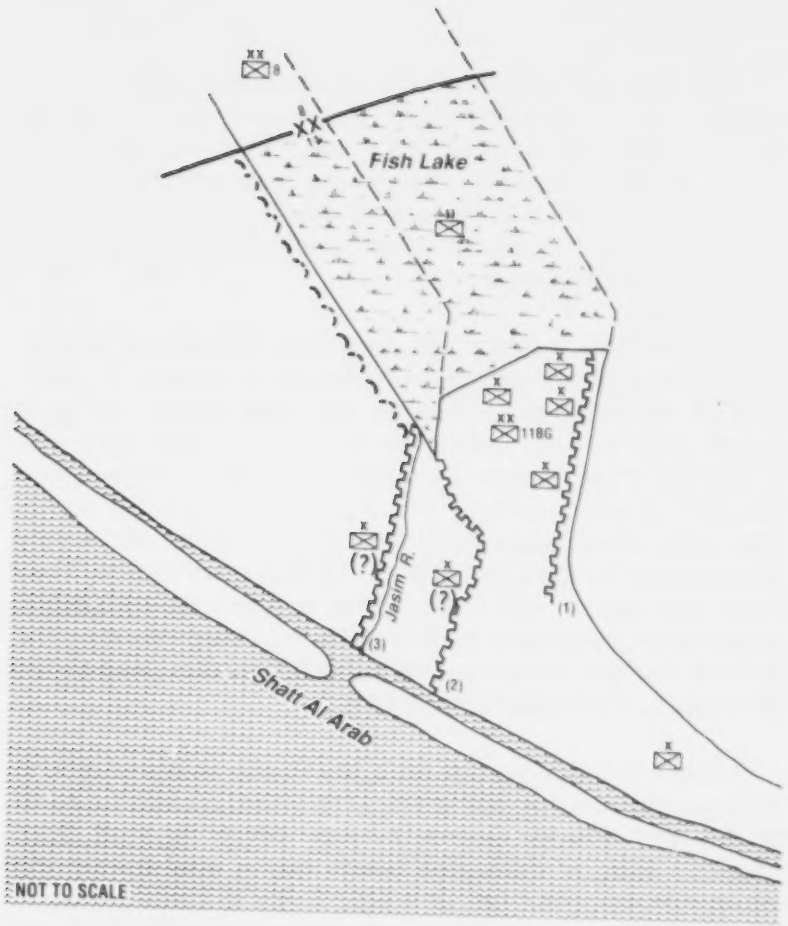

Figure 9. Late November 1986.

saw themselves in danger of being cut off from the rear by Iranians. At the same time, however, they had to repulse Iranian attacks from the east along their front. Ultimately all the imperiled Border Guards linked up to execute a slow, fighting retreat to the south, keeping the Jasim River on their left.[3] (See Figure 10.)

At this point, the III Corps appears to have taken action to secure the Jasim River line, probably with reserve units. We note in the Iraqi communiques several references to the 5th Mechanized Division, which may have been used to shore up the defense. Such action would have allowed the 11th Division to concentrate on its immediate problem of staunching the flow of Iranians into their area. (See Figure 11.)

Large numbers of Iranians continued to flow out of the bulge crowding the narrow space between berms two and three. Their progress, however, was blocked by the Border Guards, who gave way slowly contesting every meter of ground. This produced a frenzied butting match that went on for over a week. Finally, on or about January 17, the Border Guards side-slipped across the Jasim, opening the way for the Iranians to surge across the Shatt Al Arab. Before they could do so, however, they had first to ford a small channel and then traverse an island in the middle of the Shatt. As the Iranians prepared to complete this maneuver, Stage Two ended.[4]

Before the Iranians could start their river-crossing, the Iraqi high command committed a division of infantry to stop them. The division attacked south on the island and within 48 hours had succeeded in driving the Iranians off it—thus ending Stage Three.[5] (See Figure 12.)

The fighting now subsided for a brief interval, while the Iranians continued moving fresh troops into the "liberated zone," and the Iraqis consolidated their defense line along the Jasim.

On January 27, the Iranians played their last card—they tried to ford the Jasim and were briefly successful in doing so.

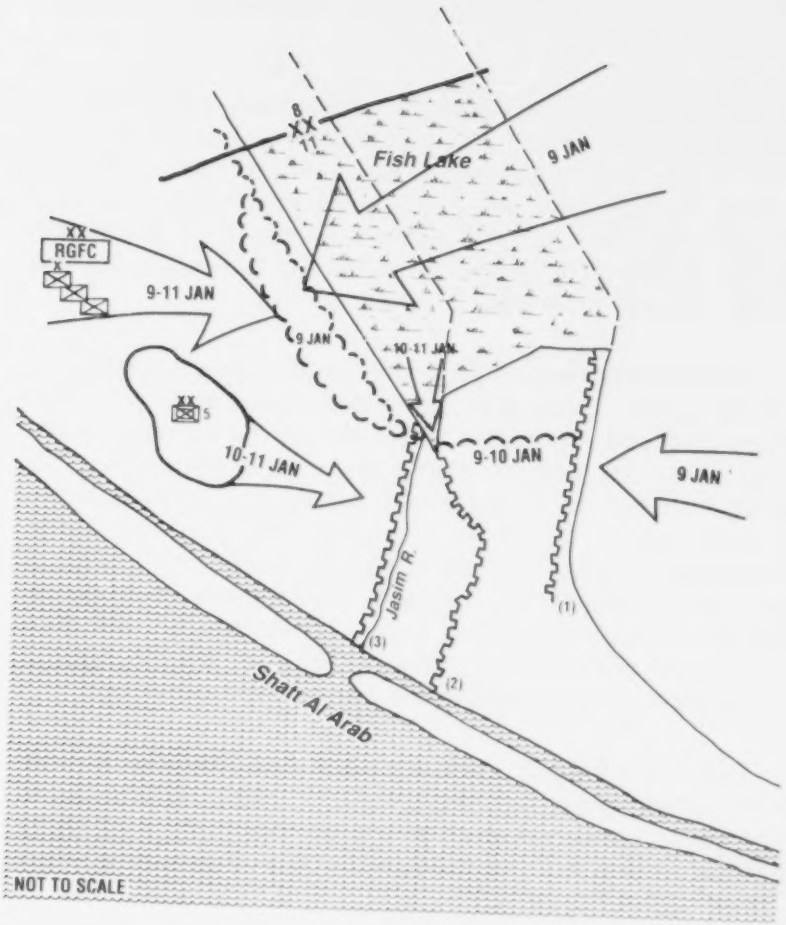

Figure 10. 9-11 January 1987.

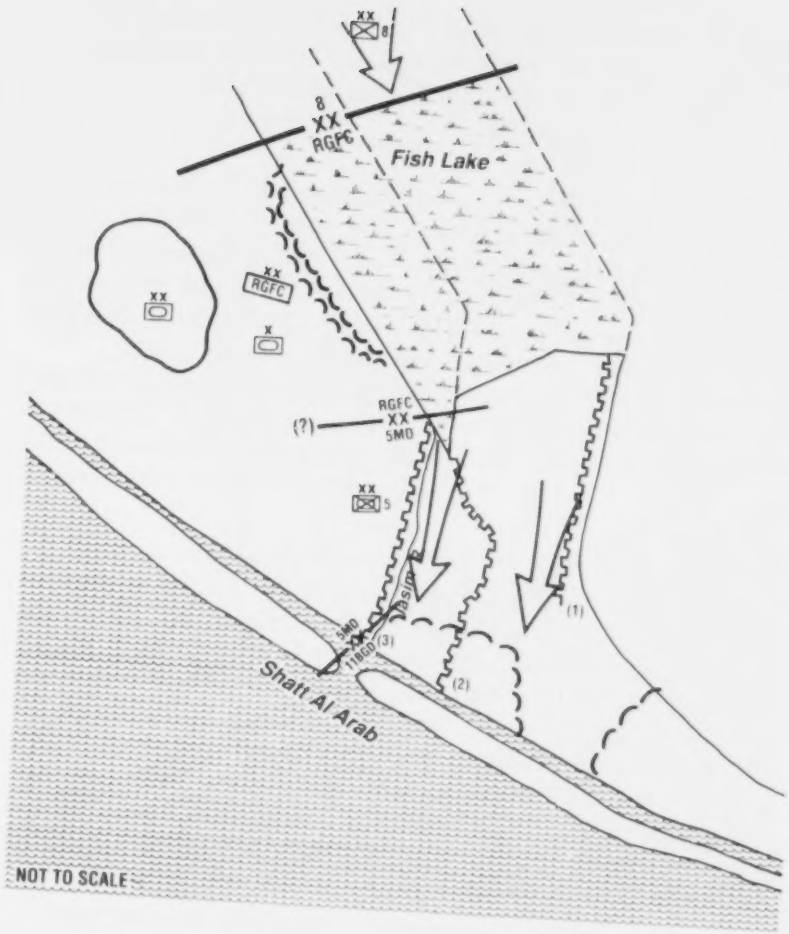

Figure 11. 11-14 January 1987.

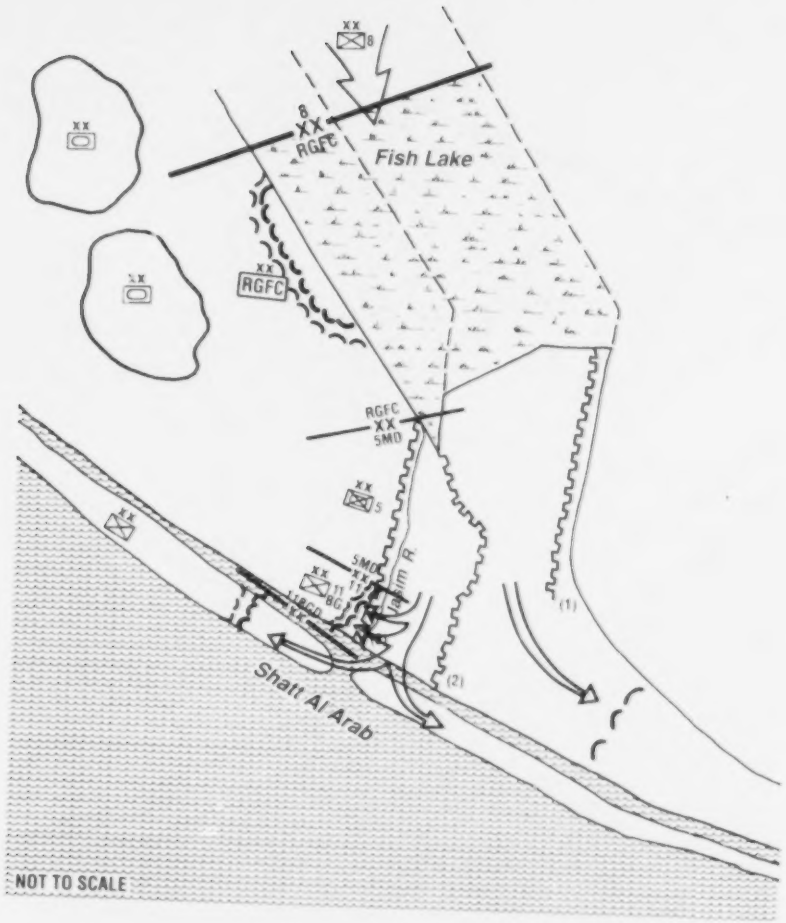

Figure 12. 14-21 January 1987.

However, after an advance of no more than a few meters, they stalled as the Iraqi defense stiffened, hurling the Iranians back. This marks the close of Stage Four.[6] (See Figure 13.)

The final stage came on January 28 when a new infusion of Republican Guard reserves crushed the bulge along Fish Lake, preventing the Iranians from making further crossings. With that the battle ended.[7] Our analysis follows.

The secret of the Iraqis' success—it appears to us—lay in their prepositioning of large numbers of units in the battle area; as one observer noted, "the whole battle area was practically wall-to-wall Iraqis." This sort of behavior on the Iraqis' part is characteristic; we have seen them on other occasions hold units in reserve until they have pinpointed the focus of an attack, after which they are committed along their excellent roadways. This clearly calls for shrewd judgment on the part of Iraq's senior officers, but leaders like Generals Rashid and Fakhri seem to have this competency.

Second, the Iraqis showed themselves able at Karbala V to fight a largely infantry battle; something they had not previously demonstrated.[8] For example, the 11th Border Guard Division was not an elite unit and yet it managed to conduct a fighting withdrawal for 10 days while turning a flank 90 degrees and defending in two directions simultaneously.[9] The Guards may have been reinforced with reserves as they retired. Still, their initial feat of absorbing the Iranians' breakthrough, regrouping, and then falling back in good order, is altogether commendable.

Next we note the Iraqis' willingness to risk casualties. They obviously were determined to make a stand at Karbala V (in order to embarrass the Iranian leadership which had promised a decisive end to the war by the New Year). To accomplish this it was necessary to overcome the Iranians' fanaticism, psyched as they were to achieve a great victory. To break the Iranians' ardor would require bloody fighting. The Iranians' assault could not be stopped except by inflicting extraordinary casualties upon the attackers.

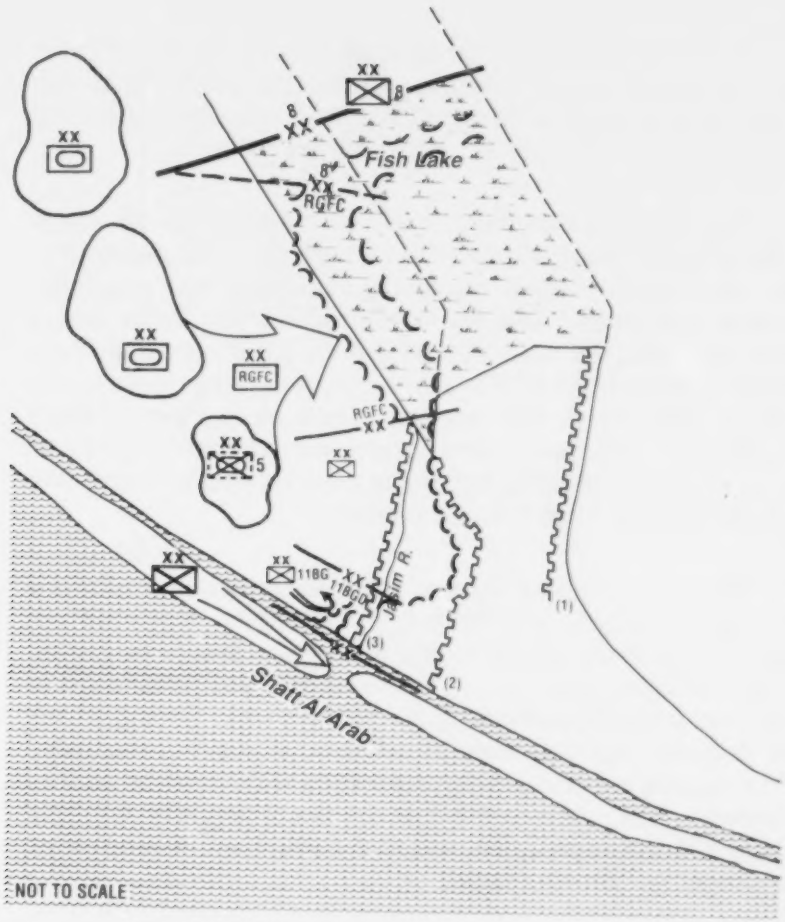

Figure 13. 27 January - 2 February 1987.

Indeed it appears that the Iraqi high command seized the tactical opportunity to create a "killing zone" in which to maximize the slaughter as they had done before. They trapped the Iranians in a box, and kept them penned there while Iraqi artillery rained devastation on them. Satellite photography shows numerous berms facing each other in the corridor leading to the Shatt. From this we conclude that the Iraqis kept the Iranians at bay by fighting behind these barriers. This sort of positional warfare takes us back to Vauban.[10]

Despite wildly varying claims it does not appear that in fact the Iraqi losses were all that high. This may have been a consequence of reserve units constructing successive fallback positions and then allowing units in combat to pass through and hand-off the battle to fresh troops in prepared positions. This would have turned the battle into an endurance test in which the Iraqis remained the freshest and thus wore the Iranians down.

The III Corps command structure apparently had no difficulty in adapting to this unique procedure. Indeed, it may even be that more than one command headquarters operated under this setup. The counterattack on the island, for example, might have been handled by the VII Corps (Iranian communiques mentioned VII Corps involvement while the island battle was taking place, and the Iraqi press praised "the heroic VII Corps defenders" for assisting the III Corps).[11]

In any event, the shifts were accomplished without apparent confusion and no loss of operational cohesion. The ability of the high command to make such impromptu arrangements we find exemplary.

In sum, this battle reveals several aspects of Iraqi doctrine, the most remarkable being their penchant to use a plethora of forces. One could argue that this was a one-time arrangement to cope with Iran's massive buildup. We think, however, that it is doctrine because the very next year—in the Tawakalna Ala Allah campaign—they adopted the same procedure. In Tawakalna Ala Allah the preponderance of Iraqis taking part in

the engagements was astounding—in some cases as high as 50:1 in Iraq's favor. At Shelemcheh one observer noted that this was the biggest tank battle since Kursk (in World War II) —but all the tanks were on the Iraqi side. Our belief is that overkill, for the Iraqis, is a means to guard against system failure.

A basic principle of information theory holds that in a system that is prone to breakdown, failure can be avoided by increasing the number of elements that perform the same function, and by multiplying the connections between them. This would seem to apply in the Iraqis' case. The generals were anticipating recurring human wave attacks. Given Iran's massive buildup, these would take their toll on frontline forces. Troops under this kind of pressure might reasonably be expected to crack.

The generals' solution was to take the recently recruited Republican Guard infantry, special forces and commandos—who were for the most part college youth, and therefore, we assume, fast learners—and drill them exhaustively. They then set them out behind the lines, and over the course of the battle wherever emergencies developed, they threw them into action.

That this was a calculated technique seems to be borne out by evidence in the war. If we look back at the Iraqis' performance in the earliest battles, we see them exhibiting just this type of behavior. Unwilling to trust the commitment of the Shias, they backed them with Popular Army units. Then, when the Popular Army failed, they backed it with Republican Guards. In other words, the Iraqis seem to have quite naturally evolved the tactic of using supererogatory units. If they persist in this practice, it must be because it resolves some perceived problem.

The Iraqis also may operate in this manner because of training problems. The constant necessity to expand the size of the force—to meet Iranian buildups—has posed numerous command and control difficulties. Iraqi units have not had time

to "grow together" before being thrown into the front. (See Chapter 4 on tactics.) Under pressure, this, too, might be a factor in causing dissolution of units at the front.

In addition, the Iraqis—after Karbala V—began conducting combined arms operations. Here, it is not only necessary that individual units perform as a team, but that units coordinate their activities. With half trained units, this would present an almost insurmountable difficulty. "Supererogation" could thus be viewed as a stopgap solution to a command and control problem.

APPENDIX A

ENDNOTES

1. "Communique No. 2,520," *FBIS-ME&A-87-007*, January 9, 1989, p. E2. The Iraqis refer to "Fishlake" as "Al-Asmak Lake." The exact position of the brigades named is unclear. We know from a variety of sources that the Iraqi front line ran north along the border from Shelemcheh, turned northwest at some point—probably following the edge of the lake—then followed the lake northwest to the dry ground in the north and then angled back over southern Majnoon Island and looped west then north around the Hawizah Marshes; also see "Majlis Speaker Discusses Karbala Operations," *FBIS-SAS-87-018*, January 28, 1987, pp. I6-I8; also Russell Watson, "Iran Tightens The Noose," *Newsweek*, February 2, 1987, p. 36.

2. Bob Levin, "Death in the Garden of Eden," *Maclean's*, January 26, 1987, pp. 18-19; also "Ramadan Interviewed on Iranian Offensive, Summit," *FBIS-ME&A-87-016*, January 20, 1987, p. E1.

3. "Communique No. 2,521," *FBIS-ME&A-87-010*, January 12, 1987, pp. E1-E11. These communiques must be read alongside the Iranian reports from *FBIS-SAS-87-006*, January 9, 1987, through January 21, 1987. By following the reports in reverse sequence it becomes evident that the eliptical language employed can be very revealing. For example, although the reports of January 9-14 offer only one hint of the penetration to the south, behind the lake, the report of *FBIS-ME&A-87-010*, January 15, 1987, p. E2, reveals that an area "southeast of Al-Asmak Lake" is being "purged" indicating that it had fallen to the Iranians; also see "Middle East: Fog of War Around Basra Front," *Defense & Foreign Affairs Weekly*, January 26-February 1, 1987, p. 2; also see Nick Childs, "The Gulf War: Iraq Under pressure," *Jane's Defense Weekly*, May 9, 1982, p. 899; also Russell Watson, "Iran Tightens the Noose," *Newsweek*, February 2, 1987, p. 36.

4. "Communique No. 2,529," *FBIS-ME&A-87-016*, January 20, 1987, pp. E3-E4. The reports make increasing mention of the shift in fighting toward the South and East. Collating the Iranian reports recounted in *FBIS-SAS* over the period, one gains a picture of the 11th Iraqi Division in command of a large number of brigades, perhaps as high as six or seven. This, however, is not unusual for the Iraqis.

5. "IRNA Rounds up Successes," *FBIS-SAS-87-012*, January 14, 1987, p. 17. Also "Communique No. 9 issued," p. I8. Apparently Ujawaryaha Island is the island referred to as "Fayaziyah" in *FBIS-SAS-87-012*, January

20, 1987, pp. I10 - I12; also see "Middle East: Karbala 5 Bogs Down," *Defense & Foreign Affairs Weekly*, February 2-8, 1987, p. 2; also see Childs.

6. "Forces Advance Beyond Jasim River," *FBIS-SAS-87-016*, January 20, 1987, p. I13, also see Childs.

7. "Iran Driven from Al-Asmak Lake," "Saddam Husayn Chairs RCC-Ba'ath Party Meeting," and "Saddam Husayn Decorates Defense Minister," *FBIS-ME&A-87-011*, February 2, 1987, pp. E3-E5; also Cordesman and Wagner, p. 253.

8. Anthony H. Cordesman and Abraham R. Wagner, *Lessons of Modern War, Vol. I, The Iran-Iraq War*, Boulder: Westview Press, 1990, p. 249.

9. "Command Meeting Lasts 10 Hours," *FBIS-ME&A-87-017*, January 20, 1987, p. E6.

10. Cordesman and Wagner, pp. 251-253; also Peeter Kopvielem, "Rage in the Marshes," *Macleans*, February 2, 1987, p. 29.

11. "Iranian Division Annihilated," *FBIS-ME&A-87-011*, February 2, 1987, p. E1; also Cordesman and Wagner, p. 252.

APPENDIX B

CHEMICAL WEAPONS

The Iraqis developed their proficiency in chemical weapons gradually during the war with Iran. They were motivated to find a solution to the impact of Iranian human wave infantry attacks which—like that of the Chinese attacks on U.S. forces in Korea—was devastating. The unpredictability of the attacks was very demoralizing, but the psychological impact on individuals caught up in the insensate violence of them was worse. For a psychological parallel in Western experience one may look to the 1939 Russo-Finnish War, and, in a particularly dramatic sense, to German experiences on the Eastern Front as conveyed in Guy Sajer s *Forgotten Soldier*.

A review of Iraqi chemical weapons employment reveals an initial use in 1982 of CS, a riot agent producing massive tears, some skin irritation and some difficulty breathing. In this instance, surprise was effective in achieving extreme disorganization on a tactical level, which in turn ruined the operation's execution.

The next reported employment was in July 1983 in the (Val Fajr II) fighting near Haj Umran. Here, the Iraqis are reported to have employed mustard gas, a persistent blister agent which can blind and cause death under "ideal" conditions. Its principal use, from World War I to the present, however, is not to kill, but to incapacitate and overburden rear services—it is very effective in degrading the performance of rear echelon activities as far forward as artillery and command and control operations.

In the 1983 employment, the Iraqis used mustard gas against an Iranian force which had captured a mountain top position. Unfamiliarity with the gas characteristics caused the attack to fail. Mustard gas is heavier than air and seeks the lowest elevation. The Iraqis discovered this as they attempted

to counterattack up the mountain only to be met and overwhelmed by their own weapon. The next employment showed a rapid learning curve as the Iraqis fired large quantities of mustard gas on the attacking Iranians at Penjwin (Val Fajr IV) in November 1983. They followed this with a more lethal attack in late February 1984 (Khaybar I). Here, they may have used the nerve agent, tabun, although this is less definite. Tabun inhibits cholinesterase, an enzyme in the nervous system that allows successive nerve endings to connect with each other. Once the connection is interrupted, the natural body functions cease from lack of required external signals from the brain.

Tabun is a crude agent; however the Iraqis are believed to have developed sarin, a more sophisticated variety that acts like tabun. This was supposedly employed during the 1988 attack on the Al Faw peninsula, and in several of the other operations which made up the Tawakalna Ala Allah campaign. However, we doubt this was the case.

Mustard gas—the agent most commonly associated with Iraq—is relatively easy to handle, although it is a two-edged weapon. Its persistence is a function of humidity and temperature, making its use as a long-term contaminant—in European conditions—nearly ideal. In the Middle East, however, where temperatures soar above 100 degrees Fahrenheit, its persistence is significantly reduced—unless one of two alternatives is followed. It may be made more persistent by thickening, which does not reduce its effectiveness, but does limit its dispersal. A second alternative is to impregnate a carrier with the agent, the preferred one being any talcum-like substance that will absorb the agent and still disperse on carrier impact.

The tactics of chemical employment are similar to other weapons having short or long-term effects. It is desirable to make the first volleys of any chemical attack a mixture of two agents, vomit or nausea agents and killer agents like phosgene, cyanogen, or nerve. The soldier who is asleep or too slow masking either dies directly from the effects of the

lethal agent or indirectly from having to mask and unmask while vomiting and, in the process, inhaling the lethal agent.

Persistent agents like mustard are usually fired on artillery positions, lines of communication and likely counterattack routes, as well as command and control installations. Against artillery, gas attacks are principally meant to slow down servicing of the guns, reduce the accuracy of sighting, and degrade the processing of commands. In most circumstances it produces a significant increase in gunner fatigue as body heat builds up inside protective suits. Further, the constant movement of the cannoneers means that avenues of penetration for the gasses are progressively opened; seams are the point of greatest movement and frequently where sweat accumulates to further degrade the protective qualities of the overgarment. The passage of voice commands is rendered difficult, in what is already a practically impossible situation. Additionally, some soldiers suffer from claustrophobia and can tolerate being masked only so long.

In summary, chemical agents are effective in degrading command and control, fire support and lines of communication. One of the most dramatic examples of this was during Operation Khaybar I in February 1984. In this operation, the Iranians attacked through the Hawizah Marshes, attempting to cut the Basrah-Baghdad road. In a notable example of battlefield interdiction, the Iraqis isolated the forward elements of the attacking force with mustard, cutting them off almost entirely from resupply by land. When the Iraqis counterattacked, they encountered Iranians who had no ammunition and who had not eaten for several days.

An additional Iraqi tactic was to target Iranian infantry in its assembly areas, as well as supply points. These attacks caused the less-well-protected rear echelon soldiers and volunteers to flee.

Chemical weapons require quite particular weather and geographic conditions for optimum effectiveness. Given the relative nonpersistence of all agents employed during this war,

including mustard, there was only a brief window of employment opportunity both daily and seasonally, when the agents could be used. Even though the Iraqis employed mustard agent in the rainy season and also in the marshes, its effectiveness was significantly reduced under those conditions. As the Iraqis learned to their chagrin, mustard is not a good agent to employ in the mountains, unless you own the high ground and your enemy is in the valleys.

We are uncertain as to the relative effectiveness of nerve agents since those which were employed are by nature much less persistent than mustard. In order to gain killing concentrations of these agents, pre-dawn attacks are best, conducted in areas where the morning breezes are likely to blow away from friendly positions.

Chemical weapons have a low kill ratio. Just as in WWI, during which the ratio of deaths to injured from chemicals was 2-3 percent, that figure appears to be borne out again in this war although reliable data on casualties are very difficult to obtain. We deem it remarkable that the death rate should hold at such a low level even with the introduction of nerve agents. If those rates are correct, as they well may be, this further reinforces the position that we must not think of chemical weapons as "a poor man's nuclear weapon." While such weapons have great psychological potential, they are not killers or destroyers on a scale with nuclear or biological weapons. For comparison, during WWI, the U.S. Army suffered some 70,552 gas casualties requiring hospitalization. Of these, 1,221 died. Deaths on the battlefield attributed to gas are recorded as 200, but on WWI battlefields, cause of death was often difficult to ascertain. The point is that 27.3 percent of all American casualties were gas generated and 31.4 percent of wounded were gas related, but the death rate was only 2 percent.

Fuel Air Explosives. Although not technically chemical weapons, fuel air explosives (FAE) are unusually effective, but are relatively unknown in the U.S. Army. These weapons, normally air delivered but capable of delivery by MRL systems,

create a cloud which, when ignited, explodes with tremendous force—several times the force of equivalent weight conventional explosives. Further, the effect is enhanced by the total coverage of the impacted area to include penetration of structures as with any vapor. When ignited, the force of the explosion creates pressure waves in excess of 200+ psi within the structure. Lethal overpressure for human beings is approximately 40 psi. The grain elevator explosions in the American Midwest are essentially FAE disasters. We believe the Iraqi Army has used and will target headquarters or fortified installations with these weapons.

APPENDIX C

WHAT WILL AN IRAQI ATTACK LOOK LIKE?

The attack will be preceded by a deception operation involving false movements of headquarters and artillery units. The movements will be visible on the ground and will be confirmed by radio traffic, but the units will be reserves, instead of the actual forces that the Iraqis are going to commit. The deception will probably not attempt to create a new situation, but will reinforce some other action already in progress or act to reinforce some plausible course of action.

For example, in April 1988, both the President and the Defense Minister made highly publicized visits to the vicinity of an Iranian offensive in northern Kurdistan. Artillery units appeared to be moving north into the sector and several brigade radio nets were activated in the area. In fact, an overwhelming force was being assembled in the far south preparing for the recapture of the Al Faw peninsula.

Some disagree about the ground reconnaissance capability of the Iraqi special forces and commando units. One observer rates them as very competent, most other observers are silent on this capability. The essential fact is that Iraq possesses large numbers of reconnaissance-capable units. Aerial reconnaissance will not be very thorough nor aggressive. It is not known just how timely reports from this source are, but indicators suggest that it takes a long time to get aerial derived intelligence through the system to the users.

Ammunition will be stockpiled, including chemical munitions, but these activities may not be as visible as one would think in a desert environment. The signal indicating an impending operation is the clearing of hospitals and the

movement of medical units which tend to exercise poor OPSEC.

It will be possible for American forces to detect the movement of reserves, but the buildup will be of fairly short duration. If suitable areas can be located, the Iraqis prefer to rehearse extensively for offensive operations and in their final campaign did so on full scale mock-ups of their objective areas. The units moved directly from the training areas into assault positions only hours before launching the attack. Since this worked in the past, the Iraqis may well attempt to repeat this format in the future.

Aircraft will begin to stage forward along with supplies several days prior to D-Day. Helicopters may well not move until the last minute and some reserve units will likely move by helicopter. Air assaults were not often employed during the Iran-Iraq War, but were during the invasion of Kuwait. Changes in air defense posture will likely follow Soviet doctrine although there were no observations of this during the last war, since there was no significant air threat.

The attack will begin between midnight and 0300 hours with a strong preference for 0300. If chemical munitions are to be employed, timing will correspond to expected "lapse" conditions.

The attack will be preceded by a very heavy artillery preparation which will include the following:

- Conventional and chemical fires on command and control installations—nerve agent. (Look for fuel-air explosive use against bunkers.)

- Conventional and chemical fires on fire support positions—persistent agent, probably mustard (possible FAE target).

- Air attacks on logistics installations with persistent chemical agent and precision guided conventional

munitions. Iraqi public television showed several precision guided munition attacks by aircraft against Iranian tanks and one of the bridges across the Shatt al Arab.[1]

- Long-range multiple rocket fires, with conventional and chemical munitions for the purpose of isolating the battle area and interdicting the movement of reserves and supplies. The Iraqis have several 60+km multiple rocket launch systems bought from Brazil, as well as a substantial number of FROGS.

- A major effort to isolate the battle area with aircraft but not with helicopters.

The ground attack will be preceded by heavy artillery fires, which may include nonpersistent nerve agents, on the forward position. The use of chemicals in general may be restricted to response to U.S./Allied actions inside Iraq and Kuwait. In other words, Baghdad may choose not to use chemicals against U.S. forces unless desperate.

The attack will progress as the tactical situation dictates with objectives probably being geographic or topographic features. The destruction of the opposing force is usually seen as a function of these identifiable features.

Close air support will begin with the initiation of the advance. Attack helicopters will generally operate behind the FLOT in both an antiarmor and an area interdiction role.

APPENDIX C

ENDNOTE

1. Russell Watson, "Can Anyone Win This War?" *Newsweek*, December 22, 1986, p. 33; and Thalif Deen, "Iraq's Battle for Arms," *Jane's Defense Weekly*, August 29, 1987, pp. 396-397.

APPENDIX D

AIR POWER

The use of air power in the war followed a peculiar curve. Both sides used it extensively in the opening months of the war, targeting each other's infrastructure with relatively good effect. Then, abruptly, attacks dropped off. From roughly 1981 until 1984 air power was used very little. Then, in 1984, the Iraqis resumed targeting infrastructure, and Iranian air power virtually ceased to exist.

What seemed to have happened is that Iran ran out of planes and pilots. To a large extent this was Iran's own fault as the pilot shortage was a self-inflicted wound. Iran had jailed most of its pilots before the war, and actually had to release them to fight. Morale, under such circumstances, was understandably low. In addition, Iran did not have the mechanics to maintain its planes, and almost literally patched them with piano wire and spit. Planes flown by Iran would have been considered inoperable by U.S. standards. Part of the reason for this was the weapons embargo against Iran, orchestrated by the United States in Operation Staunch, which denied Iran not only aircraft, but essential replacement parts. The Iranians were reduced to cannibalizing their planes to make a few air worthy.

On the Iraqi side, the real step-up in activity came in 1986 when Iraq decided to fight a total war. The air force was unleashed to seek out Iranian oil refineries, electric grids, sugar factories, concrete plants, and whatever vital facilities existed inside the country. In the past the Iraqis had targeted these installations haphazardly; now they attacked them on a systematic basis.

As a result, in 1986-87, the Iraqis virtually devastated Iran's economy, part of a deliberate campaign to destroy Iranian morale by making living conditions difficult and by denying Iran

revenue to buy weapons. In both respects, the campaign proved effective. The combination of deteriorating conditions on the homefront and the decisive defeat of Iran's forces in Karbala V prepared the ground for Tehran's surrender in 1988.

There is some controversy about this, however. Some analysts maintain Iraqi air attacks were not effective in shutting off Iran's oil trade. They maintain that, in 1987, Iran was exporting 2.5 million barrels daily. We do not accept this; our calculations are that the export figure was closer to 800 thousand barrels, which was insufficient to run the economy, let alone run the economy and fight the war.[1]

The performance of Iraqi pilots over the battlefield is problematical. They consistently failed to operate as U.S. pilots would. For example, they provided very little close air support. Indeed, they did not even seem to have been trained in it. Nor did they engage in much one-on-one air combat over the battlefield. It could be that in the beginning of the war they were frightened by the American-trained superior Iranian pilots. The Iranian F-4s were formidable, and the Iraqi Mig-23 was not a match for the F-14. In particular, the Iraqis seem to have feared the Phoenix missiles with which the F-14s were equipped. However, once the Iraqis received MIRAGES from the French their situation improved. These aircraft, equipped with Exocets, were deadly against shipping in the Gulf. Also the Iraqi pilots were well trained by the French, who maintained that—after training—the best Iraqi pilots were as good as any French pilot. Indian instructors, who also worked with the Iraqis, had a similar high regard for the Iraqis' "top guns."

Regardless, it is unlikely the Iraqis will take on U.S. planes in classic aerial duels, not because they lack the courage, but because it is not a part of their doctrine. Iraq uses its aircraft to interdict behind the enemy lines, and to destroy economic facilities in deep penetration raids. At both they are quite effective. The Iraqis' unwillingness to seek dominance of the air over the battle may handicap them in a war against the United States. At the same time, because they have not sought such dominance in the past is no guarantee that they may not

do so—or at least attempt it—in the future. The Iraqis have a record of doing whatever is required to sustain themselves in war.

In sum, our view is that Iranian pilots did not really progress over the course of the war—they had neither the planes nor the air time. The Iraqis definitely improved. It remains to be seen, however, what they would do against pilots of modern industrialized countries.

APPENDIX D

ENDNOTE

1. Godfrey Jansen, "Taking Out Kharg," *Middle East International*, September 27, 1985, p. 7; "Outward Confidence, Inner Doubts," *Middle East International*, September 13, 1985, p. 13; "Pouring on the Pressure," *Middle East International*, October 24, 1986, pp. 8-9; David Segal, "The Iran Iraq War: A Military Analysis," *Foreign Affairs*, Summer 1988, p. 960; also Fredrick A. Axelgard, "Iraq and the War with Iran," *Current History*, February 1987, pp. 58-59.

APPENDIX E

IRAQI VULNERABILITIES

Neutralize/Destroy SCUD Launchers. This is a first priority strategic task because of the threat to Riyadh and Tel Aviv. Iraq has a limited number of mobile launchers and fixed sites. These systems must be taken out to preclude Riyadh and Tel Aviv being held hostage to offensive action. The danger to "allied" forces is limited by the inherent inaccuracy of Iraqi weapons.

Gain Air Superiority/Supremacy. This is a first priority operational task. The Iraqi Air Force is untested in air-to-air combat. It has sophisticated French air-to-air weapons and we should expect French trained MIRAGE pilots to be the best and most dangerous. The Iraqis have never been confronted with an efficient air power which, in conjunction with other systems, offers the opportunity to checkmate any Iraqi offensive action. It also reduces the chemical and fuel air threats to "allied" ground forces.

Iraqi air defenses are essentially untested. Most missile systems are of older Soviet design, but newer more effective ones are present as are French ROLAND and CROATALE. The integration of the air defense system appears to be complete with Baghdad controlling the outlying region. The system is apparently connected by land-line.

Aircraft on the ground will be protected to some degree by an unknown number of hardened shelters, thus they must be drawn out which may not occur after the first days of aerial combat.

Iraqi AWACS capability is limited, but they do have at least two airborne early warning aircraft.

Launch an Antiartillery Campaign. A first priority tactical task is to eliminate Iraqi fire support. While this task serves to negate the effect of the massive Iraqi artillery establishment, it simultaneously eliminates the bulk of the chemical threat to "allied" forces.

Destruction of Iraqi fire support, which is massive and long ranged, is vital to both defensive and offensive operations. Most Iraqi field artillery is towed. The Iraqis follow Soviet practice with their artillery and use it liberally. The artillery will be dug in behind revetments as a general rule, but will be dispersed throughout the depth of the battle area.

Ground Vulnerabilities.

- Corps Boundaries. The Iraqis did not coordinate well across boundaries in general and corps boundaries in particular. The Iranians easily located and attacked along these boundaries with regular initial success.

- Killing Zones. Beware of fire traps and prepared killing zones, as the Iraqis are proficient in their creation and use. One tip-off will be the location of armored/mechanized concentrations placed to attack the flanks of the "penetration."

- Republican Guard. Find and fix the Republican Guard units whose primary role is the counterattack. They usually operate in close coordination with regular army armored and mechanized divisions. The Guards generally lead the attack.

- Reaction to Change. Present Iraqis with a rapidly shifting, or multidirectional attack while toying with or breaking their command and control. They do not react well to rapid changes and like reassurance from above. While this will be difficult, we suggest that the Iraqi command and control structure is probably the tactical and perhaps the operational center of gravity.

- Flanks. Expect to find the Iraqis well-dug-in with plentiful protective fire plans, mines and other field expedient defenses. If flanked or turned they may withdraw quickly—this is more a function of specific leadership than any generalization.

- Popular Army. Find and attack the Popular Army, which has demonstrated a pronounced tendency to panic in the face of a serious assault—but we should not be led into a fire trap by their hasty withdrawal. These forces were often placed forward as a screen.

- Lines of Communication. Be aware that lines of communication are few and vulnerable but the Iraqis have excellent engineering capabilities to maintain them. They have extensive truck resources and can move massive amounts of supplies quickly.

We offer one final note of caution. Although we have thrice mentioned specific tasks for air power, we do not believe that air power alone will suffice to bring a war with Iraq to an early or decisive conclusion. In the final analysis, ground forces will be required to confront the Iraqi Army and drive it out of Kuwait. The priorities indicated above all have the ultimate purpose of making the land campaign a viable option with minimum allied casualties.

APPENDIX F

STATISTICS

Estimating casualties in the war presents a number of troubling problems. In the Iran-Iraq War, the two sides consistently manipulated loss figures to suit their purposes. At the same time, Western analysts accepted estimates that seemed wildly improbable. Almost without exception writers on the war have failed to deal rigorously with the issue of casualty estimates.

The problem can best be illustrated by looking at estimates of casualties in the first months of the war. As noted in the text, this was not a particularly active period—Iraqi commanders, under orders from Saddam, limited hostilities hoping to reduce casualties. Iran, too, was not eager to engage until it was fully mobilized. Despite the restraints on both sides, however, estimates of losses for this phase are on the heavy side, a figure of 20,000 wounded and killed Iraqis and Iranians, evenly distributed, is cited.[1]

When we expand the period under investigation, the conventionally assumed estimate becomes more problematical. Supposedly, up to 1983, some 245,000 perished on both sides (65,000 Iraqis, 180,000 Iranians).[2] To be sure, the additional period includes some quite fierce engagements; at the Battle of Bostan (November 1981) the Iranians had introduced the human wave attack. But Iraq reacted to Iran's escalation with discretion—it broke off contact and retreated to the border. Then, when Iran invaded Iraq in July 1982, the invasion failed, with heavy losses on the Iranian side. Afterwards Iraq kept the Iranians in check more or less handily. In other words, even including the expanded period (Spring 1981-December 1983), events do not seem to substantiate the high casualties claimed.

Nonetheless, as the war progressed, claims of high casualties continued. By April 1986, the death toll supposedly had reached 350,000—that is, 100,000 Iraqis dead, 250,000 Iranians.[3] And, by April 1988, casualties were estimated at between 450,000 to 730,000 Iranians dead, and 150,000 to 340,000 Iraqis.[4] Such losses are phenomenal, and put the Iran-Iraq War in a category with some of the bloodiest wars in history, including the American Civil War and World War I.

In all bloody wars, the carnage can be attributed to the style of fighting. In our own Civil War, for example, the penchant of troops to charge positions defended by increasingly more lethal weapons drove casualty figures upward. And indeed, the Iranians, like the Americans, were disposed to assault modern fire power. However, unlike soldiers of the Civil War, the Iranians did not fight without letup. Most Iranian-initiated activity occurred during the rainy season—between December and April. During this period Iran would make one, at most three attempts to break through Iraq's defenses around Basrah. Failing this, such attempts would usually subside, with little significant action for the remainder of the year. As long as the parties carried on the war in this disjointed manner, carnage on the order of the American Civil War could not have occurred.

Iraq was further limited demographically from sustaining truly high casualties—its pool of available manpower was too low. As stated in the report, Iraq was outnumbered by Iran three-to-one. But along with this, a large percentage of Iraq's population never served. Kurds, for example, refused to submit to the draft, a fact which the Iraqi leadership eventually accepted.[5] Kurds make up one fifth of Iraq's population, hence were a sizable minority to subtract from the manpower pool. Further, until 1986 Iraq made no attempt to draft its college students. Had Iraq been suffering heavy losses, as claimed, it could not have indulged itself in this way.

Finally there is the manner in which the war was carried out on the ground. Neither side ever penetrated deeply into the other's territory. Thus civilian populations were left relatively unscathed. There was, to be sure, the "war of the cities," in

which border communities were shelled by artillery and attacked by aircraft. But this was done on a more or less random basis. At no point was there ever a scorched earth policy pursued, as in Russia during World War II. Since devastation of civilian areas was limited, practically all casualties would have had to have been combatant. Given the profligate manner in which Iran treated its troops, it may be that its casualties were as high as claimed; but Iraq physically lacked the numbers to absorb the kinds of losses it is alleged to have suffered (not and stay in the war, anyway).

Clearly, further research on this issue is required. It is of considerable strategic importance, because it relates to Iraq's political will and capability to hold out in a war against American forces. We have been assuming that the Iraqi people, having suffered dreadfully in their last war, will not have the stomach for a further fight with us. If, as may be the case, their losses were not substantial, there may be more staying power than we imagine. In other words, they may not be as war-weary as we are making them out to be.

APPENDIX F

ENDNOTES

1. Edgar O'Ballance, *The Gulf War,* London: Brassey's Defense Publishers, 1988. O'Ballance cites this figure for the period September through December 1980, and notes it is "very high" considering, he says, the number of engagements fought.

2. Anthony Cordesman, *The Lessons of Modern War: The Iran-Iraq War,* Boulder: Westview Press, 1990, p. 177.

3. Cited in Cordesman, p. 2, footnote 1.

4. *Ibid.*, p. 3, Table 1.1.

5. Islam al Khafaji, "Iraq's Seventh Year: Saddam's Quart d'Heure?" *Middle East Report,* March-April 1988 p. 37; also Metz, *Iraq: A Country Study,* p. 248. In 1983, when hard-pressed by Iran's attritive raids in the Kurdish area, the Ba'thists persuaded one of the two leading Kurdish guerrilla chiefs—Jalal Talabani—to come over to the Iraqi side and help repel the Iranians. To sweeten the deal, Saddam pledged to Talabani that Kurds would be formally exempted from the draft. He fulfilled his pledge. Those Kurds who did fight were, in effect, mercenaries who fought on condition they would not have to serve outside the Kurdish area.

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